

PARIS UNIVERSAL EXPOSITION, 1867.
REPORTS OF THE UNITED STATES COMMISSIONERS.

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INTRODUCTION,

WITH

SELECTIONS FROM THE CORRESPONDENCE

OF

COMMISSIONER GENERAL BECKWITH AND OTHERS,

SHOWING THE

ORGANIZATION AND ADMINISTRATION

OF THE

UNITED STATES SECTION.



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INTRODUCTION TO THE REPORTS OF UNITED STATES COMMISSIONERS.

Among the most instructive developments of modern civilization are those international exhibitions which, commencing in London in 1851, under the inspiration and auspices of the late sagacious and public-spirited Prince Albert, have been succeeded by more and more extended and comprehensive ones, closing in the Universal Exposition held at Paris during the summer of 1867. The projectors of this great international reunion, after mature study of preceding exhibitions, evolved a programme which embraced in its scope the productions and results of every industry, art, and science, as well as their processes and methods of operation. This was done not merely for purposes of competition and the distribution of prizes, but also, and more especially, with the object of passing in review, under the scrutiny of the most accomplished experts and men of science, all of the fruits of the skill, industry, and inventive and artistic genius of every nation, in such a manner that the exact condition and the comparative merits or defects of the industrial development of each nation and of each description of article or process could be set forth; the progress which such examination indicated, measured, and explained; and the highest standards of excellence be placed within the reach of all by means of carefully prepared reports.

From the commencement of the industrial epoch which dates from the London Exhibition of 1851 the profound significance and value of such exhibitions have been realized by the people and governments of the civilized nations. Their beneficent influences are many and widespread; they advance human knowledge in all directions. Through the universal language of the products of labor the artisans of all countries hold communication; ancient prejudices are broken down; nations are fraternized; generous rivalries in the peaceful fields of industry are excited; the tendencies to war are lessened; and a better understanding between labor and capital is fostered. It is gratifying to note that these great exhibitions are planned and executed in the interests of the mass of the people. In this last instance those industries, products, and organizations designed to promote the material and moral well-being of the people were made prominent, and the underlying animating spirit and impulse of the whole plan were for the advancement, prosperity, and happiness of the people of all nations. One of their most salutary results is the promotion of an appreciation of the true dignity of labor, and its paramount claims to consideration as the basis of national wealth and power.

Such exhibitions have become national necessities and duties, and as

such it may be expected that they will be repeated again and again hereafter.

The programme laid down by the French Imperial Commission under the presidency of Prince Napoleon, charged with the preparation and management of the Exposition, made it an absolute condition for the admission of exhibitors from any country that the government of such country should first accept the invitation and assume the responsibility of forming the exhibition of its section; and in that event, suggested the appointment of some competent person to be intrusted with the general supervision of the business on its behalf, and to communicate with the Imperial Commission.

On the 27th of March, 1865, the government of France, through M. de Geofroy, their chargé d'affaires residing at this capital, invited this government to participate, upon the terms above indicated, in the Exposition. The considerations which have been hereinbefore mentioned, and their special application to this country at a period when it was concluding its repression of a formidable rebellion, made it peculiarly desirable that the United States should not hold aloof from such an assemblage.

Mr. Bigelow, then minister at Paris, was accordingly, on the 5th of April, 1865, instructed to inform the minister for foreign affairs of France that President Lincoln regarded the proposed Exposition with great favor, as well because of the beneficent influence it might be expected to exert upon the prosperity of the nations, as of its tendency to preserve peace and mutual friendship among them; that what the executive government could do, by way of concurrence in the movement, would very cheerfully be done, but that that was as far as the President was able to proceed without special legislative authority, for which application would be made to Congress when it should next meet. Mr. Bigelow was at the same time requested to act temporarily as a special agent for this government in the premises.

Mr. Bigelow, by a letter of the 17th of April, 1865, recommended the appointment, as Commissioner General of the United States, of N. M. Beckwith, esq., a citizen of the United States, then residing in Paris, of whose eminent qualifications for the post the Department had most satisfactory proofs.

Accepting the onerous duties of that office, without compensation, Mr. Beckwith entered upon them with an activity, zeal, intelligence, and executive ability to which, with the assistance of other commissioners, is mainly due the measure of success that, notwithstanding unlooked-for and frequent impediments, was attained by the United States Section in the competition for awards and in the instruction and general benefits derived by the nation from the Exposition.

Under these circumstances I perform a pleasing duty in placing on record the grateful acknowledgments of this Department, and I venture to express a hope that Congress will signify in some public manner its

sense of services of a most responsible and arduous character, rendered not only without compensation, but involving many expenses incidental to the position which would not otherwise have been imposed upon Mr. Beckwith.

For an exposition of the nature of these duties and the manner in which they were discharged, and for many terse philosophical commentaries incident to them, I refer with pleasure to the appended extracts from the official correspondence of the Commissioner General with the Department.

On the 9th of October, 1865, a general agency was organized at New York under the direction of J. C. Derby, esq., who, taking counsel of competent committees specially qualified to advise him in the selection of products belonging to each group and class, adopted prompt measures to make known to producers the inducements which existed for taking part in the Exposition. Circulars and pamphlets giving full details of the plan and organization were prepared by the Department and circulated through every available channel in every State and Territory.

Special acknowledgments are due to Mr. Derby and to Mr. William C. Gunnell, chief civil engineer and architect, Mr. A. P. Mulat, engineer and architect, and to the other gentlemen connected, from time to time, with the New York agency, for their co-operation with Mr. Derby in his efforts to bring out a representative exhibition in the United States Section which would fitly indicate the condition and resources of the country. These efforts, considered with reference to the spirit of the debates in Congress, and to the delay caused by hesitation to make the necessary appropriations, may be regarded as remarkably successful; and although the United States Section did not contain such a collection of products as would constitute anything like a proper or just basis for estimating the industrial or natural resources of the United States, the summary of prizes cannot but be regarded as highly gratifying to the country.

To the advisory committee, and to the Chamber of Commerce of New York, for the effective measures adopted by that influential and public-spirited organization to promote the success of the movement in the United States, the department and the country are much indebted. Messrs. Samuel B. Ruggles, Elliot C. Cowdin, and Professor Charles A. Joy presented the subject for consideration and labored with commendable and efficient zeal in awakening a proper appreciation of it in the public mind throughout the country.

The light thrown upon the subject by the very able speech of the Hon. N. P. Banks in the House of Representatives did much to promote the enthusiasm of the people and a greater appreciation of the importance of the Exposition.

The general charge of the preliminary correspondence with the New York agency, and with the co-operative committees, was early confided to Mr. Henry D. J. Pratt, to whose desk in the diplomatic branch of the

Department the subject pertains. The efficient manner in which this duty has been performed invites special acknowledgment.

Commissioners Bowen and Reynolds, of Illinois, and State Commissioner Gotthiel, of Louisiana, made special efforts and obtained valuable contributions from their respective sections of the country.

In California, and upon the Pacific coast, through the exertions of the citizens of San Francisco, the Chamber of Commerce, the State Commissioner, I. N. Hoag, secretary of the State Agricultural Society, and a committee of the citizens of Nevada, a very satisfactory representation of the products of that portion of the country was added to the Exposition, and contributed largely to the value of our national representation.

In order to present a comprehensive and connected view of the progress of the executive administration of the Exposition intrusted by the Department to the Commissioner General, as well as to show the difficulties and the nature and details of the labor required for the proper conduct of a participation of the country in such great international displays, I present extended selections from the official correspondence of the Commissioner General and others, which, while giving a historical epitome of the relation sustained by the United States to the whole Exposition, will serve as a general introduction to the valuable series of special reports by the United States Commissioners and scientific experts. These reports constitute a valuable portion of the fruits of the participation in the Exposition by the United States, and present to the people of this country much useful and instructive information concerning the practical arts, and constitute a novel and profitable class of public documents, the tendency of which will be to expand and improve manufactures and arts, and increase the application of scientific principles and discoveries, which, so far as they cheapen the transformation of raw materials to articles for the use of man, or improve their quality, increase the wealth of the nation and lighten the burdens of taxation.

The editorial care and direction of the publication of these reports have been intrusted to Professor William P. Blake, of California, who attended the Exposition as Commissioner from that State, and was one of the scientific experts selected by the Commission. I feel very sure that Congress, and the general public, will sustain me in the opinion that this important responsibility has been discreetly and faithfully discharged.

WILLIAM H. SEWARD.

MARCH 3, 1869.

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LIST OF UNITED STATES COMMISSIONERS.

ORGANIZATION AND ADMINISTRATION OF THE UNITED STATES SECTION.

I.

ORGANIZATION AND FORMATION OF THE EXPOSITION.

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In order to give a history of the participation of the United States in the Exposition at Paris in 1867 selections are presented from the official correspondence of the Commissioner General and others, particularly such dispatches and inclosures as show the organization and progress of the exhibition made by this country. Some of the earlier correspondence was in part transmitted to Congress by the President, December 11, 1867, and was published in a series of pamphlets for general distribution.¹ A portion of this earlier correspondence is here reproduced

¹ The early publications setting forth the progress made from time to time in preparing the Exposition appeared at intervals until the time of opening in 1867. These publications, in the order of their issue, were entitled as follows:

1. Message from the President of the United States, December 11, 1865, transmitting a report from the Secretary of State concerning the Universal Exposition to be held at Paris in the year 1867. 8vo, pp. 58.

2. Supplemental circular relative to the Paris Universal Exposition of 1867: Proceedings of the Chamber of Commerce of the State of New York. Washington, Government Printing Office, 1866. 8vo, pp. 14.

3. Speech of Hon. N. P. Banks, of Massachusetts, upon the representation of the United States at the Exposition of the world's industry, Paris, 1867. Washington, D. C., Mansfield & Martin, publishers, 1866. 8vo, pp. 24.

4. Second supplemental pamphlet, Paris Universal Exposition of 1867: Details of organization. Washington, Government Printing Office, 1866. 8vo, pp. 64.

5. Third supplemental circular respecting the Paris Exposition of 1867: Importance

in connection with the later letters, in order to give a connected view of the organization, progress, and general administration of the United States Section of the Exposition.

In a message from the President transmitting to the Senate and House of Representatives a report from the Secretary of State concerning the Universal Exposition to be held at Paris in the year 1867, the subject was commended to the early and favorable consideration of Congress. The letter of the Secretary of State, dated December 11, 1865, was as follows:

“The Secretary of State has the honor to submit a copy of correspondence between the Department of State and the minister of France upon the subject of an invitation extended by the government of France to that of the United States, to take part in a proposed Universal Exposition to be held at Paris in the year 1867; also a copy of correspondence between the department and the minister of the United States at Paris, and other papers, explaining the nature and magnitude of the Exposition, the general utility of such exhibitions, and the measures which it has been found expedient to adopt, subject to the approval of Congress, in order to secure for the United States the advantages of participation by their citizens in the Exposition.

“It being necessary that the Imperial Commission at Paris should, to enable them to carry out their programme of arrangements so far as it relates to the United States, be notified, without delay, of the decision of this government, it becomes important for Congress, at the earliest practicable moment, to adopt such proceedings as in their judgment may be best calculated to meet the requirements of the occasion.

“Special attention is invited to the copy of a letter of the 16th ultimo from N. M. Beckwith, esquire, the Provisional Commissioner General of the United States at Paris, which is appended to one of the same date from Mr. Bigelow, and which clearly explains the importance of prompt action.

“From the correspondence it will appear that the selection of the officers hereinafter named, subject to the approval of Congress, was an indispensable preliminary for any participation by the United States in the Exposition, namely: John Bigelow, esquire, (the minister of the United States at Paris,) special agent of the United States for the Exposition, (without extra compensation for that service;) N. M. Beckwith, esquire, Commissioner General of the United States, (without compensation;) Monsieur J. F. Loubat, Honorary Commissioner of the United

of prompt action, &c. J. C. Derby, general agent for the United States. Washington, Government Printing Office, 1866. 8vo, pp. 71.

6. Senate Ex. Doc. No. 5, 39th Congress, 2d session: Message of the President of the United States, communicating, in compliance with a resolution of the Senate of the 19th December, 1866, information in respect to the progress made in collecting the products, and the weights, measures, and coins of the United States, for exhibition at the Universal Exposition at Paris in April next. 8vo, pp. 52.

States, (without compensation;) J. C. Derby, esquire, general agent in the United States, resident at New York.

"It will also appear that such appropriation for the payment of necessary expenses as may be made will be a judicious outlay, from which large returns may be confidently anticipated in effects upon the national revenues and resources, by tending to expand the demand for our productions, by attracting for the development of our latent wealth reinforcements of labor and capital, and in the collection and diffusion of useful knowledge, of the improved applications of science to agriculture, manufactures, and art, through the results of the reports of the general scientific committee. The moral influence, moreover, of a just and liberal illustration of the vitality and progress of this nation, at such an international gathering, so soon after a great civil war, ought not to be overlooked in the consideration of this subject."

PRELIMINARY CORRESPONDENCE.

THE INVITATION TO THE UNITED STATES.

The following is a translation of the letter addressed to Hon. William H. Seward, Secretary of State, by L. de Geofroy, minister of France to the United States, and dated at the legation of France to the United States, March 27, 1865 :

"By two decrees, dated June 22 and the 1st of last month, the Emperor has ordered that a Universal Exposition of the productions of agriculture, manufacture, and the fine arts should be opened at Paris May 1, 1867. Another decree, also issued February 1 of this year, and published in the *Moniteur* the 21st of the same month, has placed this grand international solemnity under the direction and supervision of a commission, the presidency of which has been confided to his Serene Highness Prince Napoleon.

"Such a selection bears too high testimony to the importance which the Emperor attaches to the success of this Universal Exposition to leave any need to dwell upon it. As to the commission, it is composed of several of his Majesty's ministers, of high functionaries of state, as well as of the most competent of notable individuals.

"The government of his Majesty charges me to give notice, officially, of these aforesaid decrees to the cabinet of Washington, to invite its valuable concurrence, and to designate an authority with which the Imperial Commission could have a direct understanding.

"It would also be of advantage, to avoid all loss of time, that the government of the United States should make choice at Paris of an agent who would be specially delegated to be near his Serene Highness the Prince Napoleon.

"This mode of procedure is the most suitable channel, and the speediest, to convey to the knowledge of the Imperial Commission the wishes of the exhibitors from abroad.

"The government of his Majesty would attach a high value to being informed as early as possible of the result of the steps I am charged to take, which have an exceptional character of urgency.

"The objects sent to the Exposition will be received, in effect, in a palace constructed for the occasion of this solemnity, and the size of which should meet the actual need of the exhibitors of all nations. But that the general arrangements and plans which shall be adopted may be in relation with the claims for space which will be preferred, it will be necessary that the Imperial Commission should know, with the least delay, what states will take part in the Exposition, and how much space each would desire to obtain.

"In ending the letter he has written to me on the subject, the minister for foreign affairs adds that he is gratified to hope that the government of the United States will show a disposition to facilitate, so far as it is concerned, the success of the work confided to the Imperial Commission. It is too enlightened not to appreciate the advantages of these solemnities, at which nations contract new ties, collect useful and mutual lessons, and thus assure the development of their prosperity."

A copy of this note was transmitted, April 5, 1865, by Mr. Seward to John Bigelow, esq., minister of the United States to France, with the following letter:

"I give you, for your information, a copy of a note which I have recently received from M. de Geofroy, chargé d'affaires of the Emperor, concerning a projected Universal Exposition of productions of agriculture, manufactures, and the fine arts, to be opened at Paris on the first day of May, 1867, under the direction and supervision of a commission in which his Serene Highness the Prince Napoleon will preside.

"You will inform M. Drouyn de Lhuys that the President of the United States regards the project thus described with great favor, as well because of the beneficent influence it may be expected to exert upon the prosperity of the nations as of its tendency to preserve peace and mutual friendship among them.

"The Prince Napoleon is most favorably known on this side of the Atlantic, and his connection with the Exposition will increase its proper prestige in the eyes of the government and people of the United States.

"What the executive government can do by way of concurrence in the noble purpose of his Majesty will, therefore, be very cheerfully done. The design and arrangements will be promptly promulgated. For the present you will confer with M. Drouyn de Lhuys, as a special agent of this government, and will bring yourself into near relations with the Prince.

"This is as far, however, as the President is able to proceed without special legislative authority. Application for that authority will be made to Congress when it shall have convened. In the mean time this department will receive and give due attention to any suggestions which the government of France may desire to offer, with a view to a complete success of the contemplated Exposition."

Mr. Bigelow also addressed Mr. Seward upon the subject, as shown by the following extract from a communication dated at the legation of the United States, Paris, April 12, 1865 :

"I presume you have already received official notice of the Universal Exposition which it is proposed to hold in Paris in the summer of 1867, coupled with a request that the ingenuity and enterprise of our people should be represented in it. That you may lack none of the elements in my possession which are necessary to determine the true policy of the United States in reference to this Exposition, I will state what has occurred at this legation in connection with it.

"On the 18th of last month I received a note from Prince Napoleon, president of the Imperial Commission, inviting me to confer with M. Le Play, Commissioner General of the Exposition, in reference to a proper representation of the United States on the occasion, to which his Imperial Highness professed to attach much importance. Early in the following week M. Le Play called upon me at the legation, and since then I have had a second interview with him at his office. He seemed anxious to know, in the first place, if my government would feel an interest in having the ingenuity and skill of the country represented at the Exposition. I ventured to express to him my decided conviction that it would; that in 1867 we all hoped and believed grim-visaged War would have smoothed his wrinkled front in the United States, and the arts of peace would have resumed their accustomed supremacy, in which case an opportunity of seeing, at a glance, what progress the whole world had made in the arts of civilization during the preceding five or ten years, and also of showing to the world what we ourselves had accomplished, would unquestionably be highly prized by my countrymen.

"M. Le Play seemed highly gratified by this assurance. He said the Prince president had been very much astonished by the marvels of ingenuity and skill which he had observed in the United States, and was anxious to have them more known and appreciated in France.

"M. Le Play, with the utmost delicacy, suggested that it would be desirable that our government should place the direction of its representation at the Exposition in the hands, and, as far as possible, under the absolute control, of some person worthy of the trust, through whom the exhibitors, or their agents, and the central commission, might communicate as occasion required. He spoke of this arrangement as likely to obviate some of the inconveniences which the commission experienced at the exposition of 1855. On that occasion nearly every State had its separate commissioner, subordinated to no central authority. Infinite confusion, and a great deal of dissatisfaction on both sides, were the inevitable consequences. M. Le Play, who was also commissioner general of the exposition of 1855, seemed to think it highly desirable that some trusty and competent person be invested with exclusive authority to communicate officially with the central commission, and to require the several State commissioners or agents to communicate through him

as the proper agent or representative of the whole nation, just as on all political matters they would communicate through its diplomatic agent. I told M. Le Play that I concurred entirely with him in this suggestion, and should not fail to recommend it to my government, though, as an appropriation for money would be necessary to give such a commissioner his proper efficiency, the suggestion had come too late, I feared, for as early action as would be desirable. Congress having adjourned, no money could be appropriated by the government for this purpose before next winter, and it was, therefore, impossible for me to say in what way my government might find it convenient to manifest its interest in the objects of the Exposition before that time. M. Le Play seemed to regret the delay, which he feared might prejudice the interests of our representation in this wise: It is proposed to appropriate the Champs de Mars to the Exposition. A vast building is to be constructed in the center of this beautiful space, which embraces about one hundred and fifty acres; and around the edifice, at a proper distance, groups of houses, or small villages, will be constructed and furnished to represent the domestic habits and characteristics of different nations. This will probably be the greatest novelty of the Exposition, if successfully executed, and nothing will be neglected by the Prince president, who has his heart very much in it, to make it a success. The plans for the structures necessary to the development of this feature ought to be matured without delay, and for that purpose there is immediate need of a commissioner to advise with in regard to the United States. I suggested that perhaps the President might take it upon himself to name a commissioner now, and define his duties, leaving it to Congress, when it meets, to fix his compensation, if he is to be paid, and, in any case, to supply him with the funds required in the proper execution of his duties.

"He seemed to think that the sooner such a person should present himself here the better, and at the same time gave me to understand that an office would be provided for him in the Palais de l'Industrie, beside his own, and all the architects and personnel of the commission would be at his disposal.

"M. Le Play further informed me that it is the present intention of the Imperial Commission to assign about six times the space to exhibitors from the United States which was assigned to them in 1855. This is to be independent of the space occupied by the outside structures, which will doubtless be in proportion.

"When this subject began to occupy my attention, I consulted Mr. N. M. Beckwith, a very intelligent American gentleman, at present residing in Paris, who had been one of the commissioners at the New York Exposition of 1853, and who was also more or less in the councils of the American exhibitors at the Exposition of 1855. His experience and good judgment led me to attach great value to his opinion in regard to the proper mode of turning the Exposition of 1867 to the best account, and I requested him to give me his views in writing. He has been good

enough to do so, and I have taken the liberty of annexing them to this dispatch.

"So far as I have any well-defined opinions upon the subject, they lead me to approve of the suggestions of Mr. Beckwith. I think, however, the success of the whole thing depends mainly upon having a competent central commissioner. He should be a man of high character; reasonably familiar with the great sources of our national wealth; accustomed to organize and employ the labor and talents of others; thoroughly acquainted with the French people and their peculiar modes of organizing their industry; and, above all, he should be conversant with their language, without which all other accomplishments would be nearly valueless."

SUGGESTIONS FOR THE ORGANIZATION.

The following is an extract from the letter of Mr. Beckwith to Mr. Bigelow referred to above. It is dated at Paris, April 3, 1865:

"In continuation of our conversation about the International Exposition, permit me to add a few words.

"The value of French exports last year was five hundred and eighty-one million dollars, and shows an increase of fifty-one per cent. in four years.

"This growth of the external commerce is but the index of the greater growth of internal commerce, resulting from the increased productiveness imparted to labor, skill, and capital; and the increased productiveness is traceable in details directly to the application of the sciences to the industrial arts.

"If it be true that civilization was led in most countries for a long period by a few men of genius skilled in political science and literature, it is not less true that the men of physical science have at length come to their aid.

"The geologists, naturalists, chemists, mineralogists, inventors, and engineers are now directing the labor of the world with a success never before attained.

"As the intellectual domination of the material world increases, the hardships and barrenness of toil diminish and its products multiply; and while political science emancipates the enslaved races, physical science enslaves the elements and forces of nature and emancipates mankind.

"In this great movement the largest benefits will fall, with the largest markets in the world, to those who make the best provision for the development and diffusion of the practical sciences as applied to industry.

"No nation produces within itself all these in perfection, nor keeps up with the daily progress in them; but those are most advanced in the race who adopt the best methods of collecting and disseminating the progressive knowledge resulting from the studies and labors of all.

"Among the methods for this purpose, international assemblies and exhibitions are increasing in numbers, in frequency, and in importance.

"A knowledge of many of the useful and successful combinations of science and industrial art cannot be conveyed in words; they must be studied in models and specimens, which display at once the combinations and effects, the modes and results.

"These being the products of many localities and many countries, bringing them together facilitates their study, and affords, at the same time, the opportunity of careful and accurate comparisons, without which no study is complete.

"The utility which experience ascribes to this method is indicated in France by a comparison of the provisions made for the exhibition of 1854 with those making for 1867.

"The first was entered upon timidly, the government relying chiefly on private capital and enterprise, on which the labor and risk were thrown. The latter has been taken up boldly as a business of state, and projected on a larger scale, contemplating an expenditure of twenty millions of francs, of which twelve millions are to be supplied from the public funds, leaving eight millions as the probable contribution of visitors.

"The United States have never participated in these assemblies to the extent naturally suggested by their interests, intelligence, and enterprise, nor derived from them the benefits they might have done. I attribute this to the want of a suitable organization of the movement, to the want of timely information on the subject, and provision for the transportation, placement, and proper exposition of objects, and to the absence of the necessary co-operation of the government in aid of the exhibition.

"First. The first step toward a proper organization is indicated by the regulations of the Imperial Commission, which require the governments intending to co-operate to appoint a commissioner, duly accredited to the Imperial Commission, which commissioner will have charge of the business belonging to the country whose government appoints him. It is necessary for the commissioner to be in constant communication with the Imperial Commission, to enable him to lay before the exhibitors early information of the plans and designs as they are developed during the whole progress of the formation of the Exposition.

"Second. The commissioner will require an agency in New York, to centralize the movement in the United States, to communicate with exhibitors and impart to them the requisite information in detail, and to facilitate in general the movement.

"The commissioner will also require (at a later period) the assistance of a committee, composed, first, of the professional and scientific persons whom the government should appoint to study and aid in preparing a suitable report of the exhibition, to be subsequently published; second, of the agents appointed by different States, or associations, and such other persons as the commissioner may find necessary to aid in the general work.

"*Remark.*—The agent in New York, and the professional men the gov-

ernment may appoint, should be paid; all others should serve without pay. The agent should select his own local committees or assistants, and so distribute them throughout the States as to render the movement active and efficient.

"This organization, completed in smaller details, is the simplest and the least that will answer the purpose, and I feel no hesitation in expressing the conviction that nothing will be done on a scale worthy of the country, and with the completeness requisite for public benefit, if the government does not take the initiative in the manner and to the extent here indicated.

"It is obviously necessary that the organization should conform to the plan of the Imperial Commission; and it is equally obvious that in a movement of this kind, where there is no authority, and no corresponding responsibility, (which can only emanate from the government,) there is not likely to be the order, co-operation, and unity requisite for efficient management and useful results.

"If the government decides to inaugurate the business in this way, the monetary provision required from Congress will, doubtless, be readily made. The country which taxes itself and appropriates more public money to education than all other countries will readily aid its men of the industrial sciences and arts to be present with the evidences of their skill in an assembly of nations where all contribute for the improvement of all, and from which none can retire without benefit.

"The diffusion of knowledge is in proportion to the numbers brought in simultaneous contact with its sources and with each other; and the more numerous the objects assembled, the more numerous the exhibitors and visitors brought together, the better will be the results."

On the 2d day of August, 1865, Mr. Bigelow again addressed the department upon the organization of the Exposition. The dispatch is given entire, but the inclosures are omitted:

"At a recent interview with M. Le Play, the Commissioner General of the Universal Exposition of 1867, he informed me that the Imperial Commissioners had finally fixed upon the Champs de Mars for the site of the Exposition, and had proposed to reserve for the United States 3,346 square metres of space within the edifice, with the privilege, if we required it, of some 1,600 metres lying adjacent and not yet appropriated. The map which accompanies this dispatch, and marked inclosure No. 1, will show the manner in which this space is distributed, and the proportion which the aggregate bears to the allotments made to the other powers.

"M. Le Play wished to know what assurance I could give that we would occupy so much space. I replied that, unfortunately, this subject was not brought to the attention of my government until after the adjournment of Congress, which does not meet again until December next; that the amount of space we should require would depend very much on the liberality of its appropriations, the executive government having no

funds or credits available for such a purpose. I also read to him from your dispatch, in which I was designated as 'special agent,' the expressions of the interest which our government took in the Exposition; directed his attention to the important changes in our domestic affairs since that dispatch was written, all calculated to favor our participation in the Exposition; and I concluded by expressing my personal conviction that the United States would make good use of all the space that had been allotted to it, and that no effort would be wanting, on my part, to secure such a representation as would be creditable to my country.

"Further than this I told him I could not go; for though I believed that any recommendation which the President might make upon this subject to Congress would receive its approval, I could give him no stronger assurance of it than my personal conviction. I urged the Commissioner General, at the same time, to let me have the detailed plans of the Imperial Commissioners at as early a moment as possible, to submit to my government, that no time should be lost, on the one hand, in preparing a programme for the action of Congress, and, on the other, in taking steps to ascertain the disposition and requirements of exhibitors.

"About two weeks after this interview I received from M. Le Play two communications. Of the first, inclosure No. 2 is a copy, and inclosure No. 3 is a translation; and of the second, inclosure No. 4 is a duplicate, and inclosure No. 5 is a translation. By inclosures Nos. 2 and 3 it will be observed that the Imperial Commission has felt constrained, in consequence of my inability to give the Commissioner General more definite assurances, to reduce our allowance of space room from 3,346 to 2,788 square metres.

"I have as yet made no reply to this communication, for I have none to make. Though the commission has left us about nine times the space that we occupied in 1855, still I regret the reduction, so firmly persuaded am I, should the opportunity be fairly presented to our people, that the proportions which this Exposition is destined to take in the eyes of the world within the next twelve months will render it much more difficult to limit our contributions to the larger space than to fill it creditably.

"Inclosures Nos. 4 and 5 embrace the general regulations and the system of classification adopted by the Commission. For the translation of the classification I am indebted to Mr. Beckwith, who has consented to act in the capacity of a special commissioner, under a power derived through me, as the special agent of the United States. In a note which accompanied this translation, Mr. Beckwith says: 'If the government would publish the classification in the newspapers, they would thus probably reach every individual in the United States interested in the subject. The classifications, like a carefully written chapter of contents, comprise more information as to the scope, limits, character, and objects of the Exposition, than could be given in any other form in an equal space. They suggest, of themselves, much of the information most useful and most desired by the public at this stage of the enterprise, which

renders it important that they should be published and distributed without delay.

"I concur entirely in this recommendation, for the reasons to which I shall refer more at length presently. If *our* people are to participate in this Exposition, no time should be lost in supplying them with the means of knowing how they may do so to the best advantage, and for that purpose they must study the regulations and systems of classification patiently and thoroughly. They may do that profitably, whether they finally exhibit or not, for they will there find probably the most complete classification of the products of human industry and art anywhere to be found in print.

"There are some features of the regulations to which it is proper that I should invite your attention at once. I may have occasion to trouble you about some of the others at a later day.

"The Exposition is to open on the 1st of April, 1867, and to close on the 31st of October of the same year. The foreign commissioners are to be notified of the *space allotted* to their respective nationalities before the 15th of August instant, after which, I am given to understand that it will be impossible to make any material changes in that regard. All applications for admission, with a description of the articles to be exhibited, must be presented before the 31st of October, 1865, prior to which time also a plan or chart of the uses to which the space will be put by each nationality respectively must be made by the foreign commissioners, on a scale of 0^m.002 per metre, and sent to the Imperial Commissioners.

"Detailed plan of articles, and their distribution in the space assigned them, must be furnished on the same scale by the foreign commissioners, as well as materials for the official catalogue, before the 31st of January, 1866.

"It thus appears that within the next six months, and before any action is likely to be taken by Congress, the Imperial Commission must know not only precisely what articles will be offered for exhibition, but they must have an accurate plan of their distribution. How far these regulations may be relaxed, and the time extended, will depend upon circumstances; but, from the nature of the case, it is impossible that they should be relaxed so as materially to relieve American exhibitors, for the reason that the plan of the Exposition requires a peculiar disposition of the articles, from which any serious departure is impracticable. This plan is explained in a communication from Mr. Beckwith, of which inclosure No. 6 is a copy, and to all of which I invite your attention.

"It may, therefore, be assumed that to wait for the action of Congress before organizing the American department of the Exposition of 1867 is equivalent to an abandonment of all profitable participation in it. All the plans must be laid, and the chief expenses incurred, if not made, before Congress can be heard from.

"Should our country people, however, attach to the privilege of shar-

ing in the Exposition anything like the value which is attached to it by the people of Europe, it ought not to be difficult to find capitalists willing to anticipate the action of Congress by requisite advances of means whenever the government shall submit to them a plan or line of policy which it is prepared cordially to recommend to Congress and the public.

"I trust that in the documents which I have already transmitted, with those which accompany this communication, the government will find all the information it will require to fix, without delay, upon the policy it ought to pursue.

"Before closing this communication, there are one or two other features of the regulations to which it is my duty to invite your attention.

"By article 5 it is provided that all communication between foreign exhibitors and the Imperial Commission shall take place through the commissioners of the respective countries, and in no case will they hold direct communication with the exhibitors. For this purpose foreign commissioners, if there are many, are invited by article 6 to appoint a delegate, as soon as possible, to represent them near the Imperial Commission.

"These provisions are designed to meet the inconveniences which have heretofore resulted from a multiplicity of commissioners, who were often exhibitors, and to concentrate the practical cares of managing the Exposition in the hands of persons specially selected for the duty, and who, by a careful study of its plan and familiarity with every stage of its growth, are best qualified to promote its success. These regulations also tend greatly to simplify the organization through which our government will have to operate. With an appropriation sufficient to pay such portion of the expenses of transportation as it may conclude to assume, and other allied expenses, (I would recommend that it assume the charge of all articles at tide-water in the United States until they are returned, those sold during the trip to pay their own charges,) and with two commissioners, one to reside in Paris and the other in New York, properly qualified for their duties, the official or governmental organization would be, for the present, and for the next eighteen months at least, complete. This subject is more fully developed by Mr. Beckwith in inclosure No. 6, to which, for the present, I content myself with inviting your attention, as presenting what seems to me the simplest, the most economical, the most harmonious plan of operation that I can imagine, and one open to fewest objections, and most certain to work successfully. I think it would be wise to take measures to avoid, as far as possible, any representation by States at this Exposition, for the Imperial Commission never know what relative value to attach to such commissioners, and the result of such a representation here would be, as it has always been before, that the whole national character of our part of the Exposition would be sacrificed to the interests of a few sharp-witted speculators who might chance to know best how to turn

the inevitable confusion and disorder that would result to their own account.

"When the Exposition is ready to open, it will be proper for the United States to be represented by a very different and more numerous body of men, who, by their knowledge and accomplishments, are qualified to describe in popular language the novelties with which the Exposition may abound. It is from the labors of such men as these that the country ought to derive its chief advantages from such an Exposition, but such men are not apt to be qualified nor to have the leisure or taste for any of the labor which precedes the opening or which follows the closing of the Exposition.

"In France it is provided that the Imperial Commission shall organize in each department what it terms departmental committees, whose duties, among others, it will be to create a commission of savans, agriculturists, manufacturers, master-workmen, and other specialists, who should make a special study of the Exposition, and prepare and publish a report on the various applications which may be made in their department of the information they may gather. To meet at least a portion of the expense of this work, private subscriptions are authorized to be opened in the several departments.

"Something similar should be done by our people and government; and in the selection of candidates for such work, no pains should be spared to select the most capable from among the class of men who have enough of our own skill and resources to determine what is new and worthy of transplantation to the United States. This work will be done for the nations of Europe by their ablest men, for thus only are the important lessons of the Exposition to be perpetuated and diffused. I hope we shall not disregard their example. In making choice of men for this labor our academies of art and design, our agricultural societies, our mechanics' institutes, and other literary and scientific societies, might possibly be consulted to advantage.

"With no other apology for these somewhat perfunctory suggestions than my desire that our country may not only appear to advantage at the Exposition of 1867, but that its artists and artisans may profit by the unexampled opportunity for instruction which it will present, I remain, sir, with great respect," &c.

APPOINTMENT OF AN AGENT IN NEW YORK.

Mr. J. C. Derby, the United States dispatch agent, New York, having consented to act as the agent for the Exposition in the United States, he was instructed by the department as follows, under date of October 9, 1865:

"SIR: Having been informed of your willingness to act as the agent in the United States for the Paris Exposition for 1867, I inclose for your guidance and information a copy of a pamphlet prepared and published by this department, and which contains the dispatches of Mr. Bigelow

relative to the conditions upon which citizens of the United States can participate in the Exposition. The limited period allowed for applications to be filed was, on the 2d of September, pointed out to Mr. Bigelow, and he was requested to inform the Imperial Commission that an extension of the time would be gratifying to this government; and on the 21st of that month his attention was again called to the importance of such an extension of time as would enable all of our citizens, who are so disposed, to unite in the Exposition so far as the space assigned will permit.

"Your attention is particularly invited to the suggestions made by Mr. Beckwith, in his letter of the 30th of July, printed on page 26 of the pamphlet, and to Mr. Bigelow's remarks on page 7 of the same.

"Two thousand copies of the pamphlet have been distributed, a number having been sent to each of the governors of States and Territories, and a number having been sent to various other quarters where they would be likely to reach parties interested. Seventy-five copies, which remain on hand, will be forwarded to your address without delay, for such disposition as you may think proper. Whenever the result of the application for extension is known here, you will be informed of it."

Mr. Bigelow, at Paris, was informed of this appointment by a letter of the same date, from the department, (dispatch No. 284,) and of which the following is an extract:

"SIR: With reference to the correspondence which has taken place upon the subject of the French Universal Exposition for 1867, I have to inform you that J. C. Derby, esq., the dispatch agent of the United States at New York, has been selected, and has consented to act as the agent for the Exposition in this country. I will thank you to request Mr. Beckwith to enter into correspondence with him as to the steps which it may be advisable for him to take in that capacity.

"With regard to the extension which you have been requested to ask for of the time for filing applications of our citizens to become exhibitors, I would suggest that, if it should be found that the Imperial Commission is unable formally to accede to the proposed change, you will request Mr. Beckwith, when he prepares the general plan of organization of our branch of the Exposition, required according to the programme on the 31st of the present month, to make such allowance as his judgment may dictate for additional machinery and articles for which it may be expected subsequent applications will be made."

The following is Mr. Bigelow's reply, (October 27,) together with a communication from Mr. Beckwith, under date of October 26, 1865:

"SIR: I have the honor to acknowledge the receipt of your dispatch No. 284, with an inclosure, by which I am advised of the appointment of J. C. Derby, esq., of New York, as agent for the French Universal Exposition of 1867, to reside in the United States.

"I also have the honor to inclose a copy of a letter this day received from Mr. Beckwith, Commissioner of the Exposition for the United

States residing at Paris, from the tenor of which it would appear desirable that Americans wishing to exhibit should be notified as soon as possible to send in their applications with specifications to Mr. Derby, instead of sending them to Mr. Beckwith. The reasons for giving this direction to the applications are sufficiently disclosed in Mr. Beckwith's note. I would suggest, also, that exhibitors be notified at the same time to make their applications as soon as possible, that the New York commissioner may have time enough to make his selections, allotments of space, drawings, &c., and transmit them to the Commissioner at Paris before the 31st of January.

"It may be also desirable that the public be prepared in some way, either in this notice or otherwise, to expect that it will be the endeavor of the commissioners to secure as complete a representation of the art and industry of the United States as possible, and for that purpose it will be necessary for them to make selections of representative articles in every class or group, rather than accept many specimens in the same class, whatever may be their merit. As the space will be limited, it is as well that this guiding principle of having a complete Exposition, if we are to have any, should be known early, both to aid in bringing about such a desirable result, and to prevent needless disappointment.

"It is to be presumed that the Army and Navy Departments have some novelties appropriate for this Exposition; if so, it is needless for me to say that anything coming from those quarters would be likely to command special attention."

Mr. Beckwith to Mr. Bigelow.

"PARIS, October 26, 1865.

"DEAR SIR: In conformity with the instructions of the Secretary of State which you communicated to me, I have to-day placed myself in correspondence with J. C. Derby, esq., agent, New York. I have prepared for him—

"1st. A general letter placing before him the present state of that part of the business of the Exposition of 1867 which he will have first to take up.

"2d. The loss of time consequent upon the necessity of waiting for the action of Congress renders it necessary to transfer to New York the work of dividing the ground among exhibitors, (as suggested in my letter to you of the 30th July, published,) where preparation can be made pending the needful legislation, to complete the work of distribution in a brief space of time afterward.

"I have, therefore, transmitted to Mr. Derby eighteen letters, comprising all the applications for space in the exhibition which I have received to this date. I have desired him to place the letters on record as a part of the applications to be considered in making the distribution of ground, and I have in conformity advised the writers that they will

receive from Mr. Derby, in due time, definitive advices of the result of their applications.

"I shall now prepare as early as possible the plans and drawings by which Mr. Derby will be governed in making the allotments, and shall point out to him the manner and extent to which he can alter these plans to suit circumstances without departing from the general order to which all conform. These documents will be accompanied by explanations and information which will, I hope, render the work easy.

"I would now suggest the expediency of a notice, authorized by the government, requesting all who wish to exhibit, and have not made applications, to send in their applications to Mr. Derby, with a limit of time in the notice beyond which no applications can be received.

"The work will be so far advanced by this method, I trust, that by the time the needful legislation is finished the allotments can at once be made, and the plans, catalogues, and reports sent forward, so as to be returned to the Imperial Commission within the extended time they will be able to allow us.

"I beg to call your particular attention to the importance of the allotments of ground; this, in reality, is the formation in embryo of the Exposition.

"The selections of products will be limited in quantity to the area they are to occupy, but in variety and character they should comprise a full and fair representation of American products, industry, arts, and science.

"To make these selections and the allotments of space for them is the work which now devolves on Mr. Derby, and for the selections it is not probable that any one man could be as competent as several, each chosen for his knowledge in different departments.

"When the applications are all in, and the work prepared, the selections and apportionments, which must proceed together, will occupy but little time.

"The attention of the government, I trust, will be given to this, and suitable persons invited to assist Mr. Derby for a brief period in this important part of the work."

In regard to the extension of time requested of the Imperial Commission, Mr. Beckwith wrote to Mr. Bigelow November 16, 1865:

"DEAR SIR: The observations relating to the action of Congress in regard to providing transportation for the Exposition, contained in the article annexed to the circular of the Department of State of the 18th November, leave the impression that there is no occasion for the immediate decision of Congress on that subject, and as no other subject is named requiring early attention, the inference naturally suggests itself that there is none.

"I cannot doubt, however, that your dispatches and my letters have presented the real situation, which requires an early decision, and that this will appear in the communications of government to Congress.

"The application for time (which was granted) related only to the report due on the 31st October. That report was preliminary, and admitted of subsequent modifications, and delay in regard to it was not of great moment, but the important report called for on the 31st January next is final in regard to that part of the work. It includes the allotment of ground and formation of the Exposition, (in embryo,) leaving but the subsequent labor of bringing it to maturity. This report cannot be made until after the action of Congress.

"All that has been done is provisional and contingent on the future decision of the government; but to make the report in question we must abandon contingencies, and enter upon positive engagements with the Imperial Commission and with exhibitors. The early decision of Congress is therefore indispensable to avoid further delay and another appeal for more time.

"There can be no doubt of the readiness of the Imperial Commission, and of the Emperor, to grant all the delay possible, without interrupting seriously the general progress of the work; but how far a delay of the important report alluded to would embarrass the general movement I am unable to judge.

"All that the Imperial Commission has said on the subject is, that the work is well advanced; that we are the only nation now in arrear, and they hope, and appear to expect, we will soon be able to make up lost time. I am the more anxious to have the present state of the business clearly understood, because, after the action of Congress, we shall need all the delay we can obtain.

"There is a good deal of work to be done in New York, which has been presented in ample detail to Mr. Derby, but the work cannot be done till after the decision of Congress, and if forced to be done hastily, cannot be well done."

IMPORTANCE OF THE EXPOSITION TO THE UNITED STATES.

Mr. Beckwith to Mr. Bigelow.

"PARIS, November 23, 1865.

"DEAR SIR: In proposing the Exposition of 1867, the French government represented its chief object to be a collection of the useful products of all countries for the purposes of comparison and the study of the methods and processes connected with the production and fabrication of the objects collected, and that this end would be attained in proportion to the variety and universality of the collection. National exhibitions thrown together by the spontaneous action of producers never have the character of universality desired. Producers who are most active, or who act most in the spirit of sparing no expense in advertisements to increase sales and profits, come forward, while many whose products are equally desirable, and perhaps more instructive, have no occasion or no disposition to make use of the method, and they

do not appear. Such collections are defective, and to that extent failures.

"The course adopted by the French government on this occasion differs from that of preceding attempts, and is expected to have better results. Invitations to co-operate are limited to governments, and the respective governments are solicited to undertake the work for their respective countries, giving to their exhibitions the arrangement provided in the general programme, which will bring them all in harmony with each other. Governments thus co-operating, it may be usually expected, will adopt each for itself the local measures necessary to prevent a partial exhibition and to secure a collection more universal and fairly representative of the country in every department of national and industrial products. In this connection you will appreciate the importance which attaches to the distribution of the ground to exhibitors, because that comprises the formation of the Exposition and determines its character.

"I consider it superfluous to develop and discuss the direct advantages of international exhibitions in general, or of this one in particular, to the United States. They present themselves to intelligent minds, and, fortunately, we have no others to present them to.

"Those who are familiar with the industrial products of England (and who are not ?) are aware that their prominent qualities are strength, solidity, and utility ; that those of France have always been remarkable for beauty and taste. They cannot have failed to observe, also, since the epoch of international exhibitions, the rapid improvement of English products in graceful forms, beautiful combinations of colors, finer designs, and superior taste, while those of France rise equally in the important elements of strength, durability, and fitness. Similar observations apply in an eminent degree to Belgium, which learns and combines from both ; and the same may be said in some degree of other surrounding nations. Nor is this surprising. Inventions, combinations, discoveries, improved methods and processes, spring to light simultaneously in many fertile minds, and in many localities of all countries, but the knowledge is slow in spreading itself into general use. Its diffusion is quickened by international gatherings and exhibitions. But on this occasion there are indirect considerations which invite us with unusual urgency to co-operation.

"No one is more sensible than yourself of the deficiency of exact information in Europe in regard to America previous to the rebellion, in a political, literary, and moral sense, in a physical, geographical, statistical, financial, industrial, scientific, and productive sense, and in every sense. It was obvious at every step, everywhere, and among all classes, and it suggested an incredible indifference, unaccountable to those not acquainted with the causes of such deficiency. The events of the last four years have made the United States more known than all the events of their previous history. Their magnitude, their resources,

and their strength are now acknowledged. The strong impression produced is pleasing or unpleasing, according to the sympathies or aversions of classes and interests, but none deny the presence of a great power, and its advent is acceptable and hopeful to the masses of the numerous peoples.

"Emigration of the productive and industrial classes from Europe to America is an acknowledged source of prosperity, and has long received the encouragement of the government.

"An exhibition of the products of America in the center of Europe, well selected, and complete enough to be national, showing the mineral and agricultural resources, the state of manufactures, the varieties and quantity of machinery, and the condition of the industrial arts in general, would, in my judgment, produce an impression of surprise analogous to that produced by the disclosures of the war. The strongest impression would naturally fall on the mind of the most intelligent portion of the productive classes, who are most appreciative in this sense, and have the best means of being informed. This is the class of skilled labor and of practical knowledge, whose emigration is highly desirable, but who are slowest to risk the change. They would see and judge for themselves of materials and resources and products; of the existing conditions and opportunities open to them to better their condition in life.

"Financial organizations under the patronage of the French government (a plan of which I have sent Mr. Derby) are now forming to aid the class of operatives in question to assemble from all parts of Europe to be present at the Exposition and to remain and study it. The concourse will be large, and they are the practical students of exhibitions.

"We can participate in the benefits resulting from this, and I do not think it chimerical to suggest that an American exhibition, well selected and really national, viewed merely in its economical aspect, is desirable, and would return to the treasury, by increased immigration and augmented revenues, more than its cost, however liberal the provision of Congress.

"The United States are the only nation of importance which has yet to express itself definitively on the subject, and a lively interest attends the action of Congress, not only on account of its bearing on the Exposition, but as an expression of its appreciation of the object and enlightened spirit of the undertaking."

NOTICES TO PERSONS INTENDING TO EXHIBIT.

Soon after the organization of the agency in New York, Mr. Derby issued a revised and enlarged edition of the official pamphlet, giving information to the public and directing attention to the importance of the proposed Exposition. He also issued a circular letter to the manufacturers, mechanics, inventors, producers, engineers, architects, artists, and scientific and educational organizations of the United States, of

which the following is a copy, and sent one hundred copies to the governor of each State and Territory :

“NEW YORK, *November 23, 1865.*

“The undersigned, having been appointed by the Secretary of State to the above-named agency, and being desirous of the co-operation of his countrymen in his efforts to make as complete, interesting, and creditable as possible the representation of this country at the great Exposition, adopts this method of conveying to them information and suggestions upon the subject.

“In compliance with a request made through our minister at Paris, the time for filing applications from the United States has been so far extended that all which reach the undersigned before the 1st of January next will be in season. When examined and considered, the decisions will be duly made known.

“Parties wishing to exhibit are requested to apply immediately to the undersigned for correct forms of application and instructions, inclosing postage stamps for reply.

“Articles accepted should be delivered at New York prior to January 31, 1867.

“Accepted articles will be shipped from New York to Paris and returned at government expense, provided the necessary action of Congress obtains.

“To prevent unnecessary trouble, it should be understood that it is a primary object to make the representation of the United States as complete as possible in all the classes and groups enumerated in the programme published in the official correspondence, and that it will therefore be necessary to select representative articles in every class or group rather than accept an excess of any one class.

“In order to secure the universality of character above indicated, it is suggested that in each city or neighborhood those classes of manufacturers, artisans, and others who produce articles for very general use or consumption, should, without any delay, agree among themselves as to the specimens for which space should be applied for.

“Every effort should be made to bring forward new and useful mechanical inventions, combinations, and fabrics, and pains should be taken to have all articles neatly and thoroughly finished and prepared for exhibition.

“As the decisions, report, and plan of arrangements from the undersigned must reach Paris prior to the 31st of January next, it is very desirable that all applications should be sent in as much earlier than the 1st of that month as may be practicable.”

SELECTION OF PRODUCTS AND ALLOTMENT OF SPACE.

THE COMMISSIONER GENERAL TO THE AGENT IN NEW YORK.

"PARIS, October 26, 1865.

"In conformity with the directions of the Secretary of State, I have the pleasure to address you on the subject of the Universal Exposition of 1867.

"The information which has doubtless been sent you by the Department of State, and the publications from the same source, will have placed the business before you in its present state. This relieves me from the necessity of further preface, and I take up the subject at the point where the publications leave it.

"The delay which has unavoidably occurred in organizing and initiating the work has rendered impossible a strict compliance with that part of the Imperial Regulations (article 7) which calls for a report and specifications on the 31st of October, 1865.

"An application now pending has consequently been made for an extension of time, and there is reason to expect that it will be granted. But as nothing definite can be done by us until authorized by Congress, and as the action of Congress is still distant and the period of its decision uncertain, it becomes the more necessary to be prepared to act rapidly when the time arrives. In the ordinary course it would have been practicable to receive in Paris all the applications of exhibitors and to make the allotments of ground here, but this would require six weeks or two months more of time, and, in view of the time already lost and still to be lost, it is necessary to transfer this part of the work to your side. The work, therefore, which will first come before you will be as follows:

"First. A public notice for all applications (not previously sent in) to be sent in to you within a limited period.

"Second. When this time has elapsed, and the applications (including those made here, which I shall send you) are all in, the selections will have to be made, which will form the exhibition, and the total quantity of products accepted will be limited to the total area provided for them.

"Third. The apportionment of ground to each exhibitor, to which his name and number will be attached, to his locality in the place designated.

"Fourth. The classification of products and placement in conformity with the general plan of the Imperial Commission, and drawings, to a scale of 0^m.002, which will exhibit the distribution made, together with the plan and arrangement of tables, cases, and fixtures of all kinds for the exhibition of the products.

"Fifth. Plan of the fixtures required, and statement of the force needed for machines in action.

"Sixth. Catalogues of names of exhibitors, with their numbers, and

catalogues of the objects to be exhibited, as described in article 7 of the Imperial Regulations.

"I am preparing, and shall transmit to you as early as possible, the drawings and detailed plans which you will need in the distribution and apportionment of ground; and I shall indicate the extent to which the Imperial Commission will allow the remodeling of these plans to suit your particular requirements, without breaking up the general plan conformed to by all; and I will add such other information and explanations as will, I hope, make this part of the work easy.

"The most important part of the labor will be the selection of products, selection being necessarily limited to the area for exhibition, and the governing idea being a fair and, as far as possible, a full representation of national products.

"For this labor not any one man probably would be as competent as several, each of whom would be better informed in some particular department.

"I am not informed as to whether the government will provide for this, or whether it will be left to you, nor is it of much moment, provided the right thing be done. But you will observe the importance of the selection, *which, in fact, is the real formation of the Exposition*, and its completeness and value will depend on the knowledge and judgment displayed in this department.

"The preceding will serve to inform you of the work you have to prepare for." * * * * *

"No. 4.]

"PARIS, November 1, 1865.

"DEAR SIR: The leading object of the French government in undertaking the Exposition of 1867 is indicated in the method adopted by the Imperial Commission for the purpose of forming the Exposition. The principal motive of producers in exhibiting may be to advertise the qualities and value of their products, thus augmenting sales and profits. But these considerations are only collateral and secondary with the government. The primary object is an opportunity for the comparison of products and the study of processes by which the knowledge that multiplies products, improves their qualities, and diminishes their cost, is diffused.

"For this purpose, it is obvious that the Exposition should be 'universal;' that is, it should comprise specimens of the useful products of the universe. To give to the Exposition, as far as possible, the character of universality, the method of forming it, suggested by experience, and adopted by the Imperial Commission more fully than in any preceding exhibition, is the following: All useful products are first divided into groups, and the groups divided into classes. The ground on which the products are to be exhibited is then divided into compartments corresponding to the groups and classes, and these compartments are, in due course, to be filled with their appropriate objects. By this method of

proceeding, the Exposition will of necessity have the character of universality intended.

"An examination of the grouping and classification which have been published will show that, however diversified and different the products of different countries and climates, they will all find a place in the different classes, while no country of any extent, probably, will be found destitute of products suited to each class.

"In dividing the ground, the importance of some products as compared with those of the same country is not overlooked. The more important should have a corresponding representation, which, in general, implies a larger space.

"This is provided for as follows: The divisions suited to the products of France and adopted by the Imperial Commission are represented as a model. But discretion is reserved to the commission of each country to remodel this plan and adapt it to their own wants, which is only limited by the skeleton or autonomy of the general plan, which requires all groups and classes to be preserved, and precludes any from being entirely obliterated.

"The property of this provision may be explained in this manner: All countries, for example, produce clothing; but the makers of clothes in our country might not feel much interest in exhibiting their work in another country, with a view to markets, where differences of climate, of race, and of habits are against them.

"There is, however, no product of labor more important, none in which human skill has been more universally, nor to which science and art have been more elaborately, applied in the conversion of raw material, in the adaptation of garments to climates, to particular uses, and to the various conditions of life, and for the comparisons necessary to an appreciation of the best qualities of each; collections of native costumes or clothing from all countries are equally desirable and valuable.

"The method thus carried out will obviously produce the conditions desired—facilities of comparisons and the studies of processes relating to products of greater importance, and to those of less importance to the products of one locality, as compared with those of another in the same country, and to the products of all countries compared with each other.

"The Exposition will at the same time be, to a large extent, an advertisement of products for the direct interest of producers.

"My chief purpose in this brief explanation of method and object is to call your attention more pointedly to one of the topics in my letter of the 26th of October,¹ viz: The allotment of ground to exhibitors.

"The allotment of ground is the formation of your exhibition; when this is complete your exhibition (in embryo) will be completed.

"The success of its representative character, in a national sense,

¹ The letter here referred to is published in the official pamphlet, second edition, page 37, and with these papers, pages 23-24.

depends, therefore, in the knowledge and judgment displayed in the allotments, because that determines at once the variety of products to be displayed, and the quality and importance ascribed to those selected for exhibition in each department. A right understanding of the views of the French government in regard to the Exposition, in which the United States are invited to co-operate, and the importance which attaches to the allotments, will, I hope, excuse my having returned to this subject and dwelt so long upon it."

"No. 9.]

"PARIS, November 8, 1865.

"DEAR SIR: I have alluded in previous letters to the great importance attached by the Imperial Commission, not only to the exhibition of useful products, but to the exhibition of the methods and processes by which these objects are produced.

"Extensive preparations will be made in the Palace and in the Park to exhibit machinery in action, accompanied by the persons usually employed with it, displaying at once its method of action and its products.

"Great efforts are also making to bring together and exhibit groups of families of persons of all nations usually employed in the industrial arts, whether carried on by mechanical means or by the use of a few tools and implements combined with manual labor and skill, dressed in their native working costumes, installed in their usual habitations, or those resembling them, and fabricating the objects they exhibit.

"The interest and importance which the Imperial Commission ascribes to the exhibition of methods and processes, the scope intended to be given to this department, the police, sanitary, and other peculiar provisions requisite, and the general co-operation which is invited, are set forth in the document hereto annexed. It comprises thirty-two pages, chiefly in lithograph and partly in manuscript. It has not yet been published, and is incomplete. The plan is developed day by day, under the study of the Imperial Commission, aided by the suggestions of others, which are invited and frequently adopted.

"I send it in the imperfect form, because I think it sufficiently developed for your purposes, and no more time should be lost in presenting it for your consideration and that of the persons with whom you will doubtless advise in forming the exhibition.

"The programme, you will observe, includes all nations and nationalities, civilized and uncivilized, among whom industrial arts exist; and there are few people without them.

"Doubtless the greatest variety and number of these industrial groups will come from Oriental nations, which are little advanced in the science of mechanics, and destitute of the great combinations of capital and skill embraced in large manufactories. Industrial art among them is still confined to the family circle; but their products are abundant in variety and quantity, frequently excellent in quality, often of great beauty, and in the important elements of utility and cost they still hold

in check and nearly control the great markets of the East, exposed to the competition of the best fabrics of Europe and America.

"But the Imperial Commission does not limit its Exposition to the East; it hopes for similar exhibitions from North America and from South America; and I am desirous to bring the subject to your particular attention.

"The programme is comprehensive in the scope of industries it proposes to exhibit—workers in metals, in glass, in chemicals, in wood, in leather, in all materials; hand-spinning, weaving, and embroidery, machine sewing, machine shoemaking, knotting of fish-nets, twisting of fish-lines. No industry will be out of place, even to a group of red Indians making pipes, bows, wampum, feathers, or baskets. These last, indeed, would be among the most unique and interesting objects you could send. They would add a valuable feature to the ethnological elements which the many nationalities assembled, with their peculiar habits, manners, industries, and character, are expected to display, and which subject the French Scientific Commission has been particularly directed to study.

"However uninteresting a group of red men may be in America, few objects would be thought more interesting in Europe; while similar groups brought from the East may afford subjects equally curious and instructive to Americans."

"No. 10.]

"PARIS, *November 8, 1865.*

"DEAR SIR: The special committee (French) on admissions, Class No. 93, on habitations combining cheapness, health, and comfort, have published the document annexed.

"Ground in the Park is appropriated for this purpose, and great importance is attached by the Imperial Commission to the exhibition of rural habitations from all countries. It is suggested, also, that the furniture adapted to them, being on exhibition, may be placed in them, and that they may be inhabited by the families or groups of persons alluded to in my letter No. 9, and the documents attached to it.

"The impression prevails that we produce in America model houses of iron, combining many useful qualities and adapted to many localities; also model houses of wood, comprising similar qualities in a higher degree—such houses as are shipped to California, &c. But great interest attaches to the exhibition of rural habitations, of whatever material, adapted to all classes of laborers and every grade of fortune, including the log-houses of remote settlers and those of the transitional condition, from a humbler to a higher state of prosperity and comfort corresponding with the use and development of condition and wealth in settlements of rapid growth, in which no country can compare with America. A row or group of this kind would speak strongly to the eye and the mind. It would contrast strongly with corresponding groups from different parts of Europe and the East, where characteristics are immobility and poverty—no growth, no change. Habitations of this description are typical

of the moral and physical condition of the great bulk of the population of all countries; they indicate the degrees of intelligence, thrift, and prosperity among them, and would be objects of interest and instruction to the great emigratory classes, as well as to the philosopher and economist."

"No. 17.]

"PARIS, *November 10, 1865.*

"I inclose an application, in behalf of the State of Michigan, for twenty-one thousand feet of blank space in the Exposition. I also inclose my reply to M. d'Aligny, which please read and forward to him. I suggest the expediency of your publishing in the newspapers as advertisements, or otherwise, a notice to applicants, comprising the observations I have made to M. d'Aligny on the necessity of an exact description of each article to be exhibited, without which you never can complete catalogues for the report on which the Imperial Commission compiles its publications. The description is indispensable, and in the outset I have assigned some explanatory reasons for this method of proceeding, which you will probably agree with me are requisite to satisfy applicants and induce them to comply with the requisitions.

"You are doubtless conscious how strongly we Americans are disposed to revolt at everything chalked out for us, and how inclined to think we could make it better, (and perhaps we could,) and therefore take our own way about it.

"But the question of better or worse does not arise in this case; it is merely a question of method or no method. Any method that all follow is better than none; and as it belongs to the Imperial Commission to lay down the method, it belongs equally to us to follow it, and we cannot get on without. You had better be firm on this at the outset; you will have to come to it, and it will save time."

"No. 21.]

"PARIS, *November 27, 1865.*

"DEAR SIR: I beg to hand you with this a number of drawings, six in all, numbered 1 to 6; they develop plans of that section of the Exposition Palace appropriated to the United States, and are accompanied by detailed explanations of each drawing, which document is numbered 77. Explanations of this kind seldom appear as clear to the reader as to the writer; many details which are present in his mind, and fill up the outlines, are omitted in the description from a feeling that they will suggest themselves, and that a record of them is superfluous, and would only make the description tedious and obscure, rather than clear.

"But the plans and explanations will, I hope, be found sufficient to enable you to make the distribution of groups and classes, and the allotments of place to exhibitors with facility, and free from error.

"At all events, if you find my details defective, I must refer you to the French plan, No. 1, which I send you; it is all I have had to work

from, and I hope you may find the study of it more interesting than I do.

"The plans herewith relate only to the Palace; nothing is said of the Park, nor of the three groups (VIII, IX, X) and twenty-two classes which belong to the Park. I shall return to this subject as soon as the Imperial Commission makes up its mind on it, and decides on the distribution and manner of occupying it.

"No definite apportionments of ground in the Park to nationalities have yet been made. All are told they can have what they want, but I imagine there is some difference of opinion as to the manner of occupying the grounds. The Imperial Commission is, therefore, inviting from the foreign commissions suggestions as to how much ground they want, and how they wish to employ it. Doubtless in a few days the plan will be settled, and the appropriations made, to be occupied in conformity with the ground-plan, which will be promulgated.

"I think you will find we have less room in Group VI in the Palace than we require. My impression is, we ought to occupy twice as much room as we have in that department. The United States are not so strong in products of the other groups as in those of the sixth, and they are of a kind that require room. But the plan of the building does not admit of giving us a larger portion of room in that group; it is the same as falls to other nations; but the products of other nations do not demand so much room in that department.

"I have, therefore, proposed, in writing to Washington, if it should be the opinion of your committee also, to supplement the ground of the Group VI in the Park, provided the Imperial Commission will consent to the requisite modification; and my present impression is, they will do so, though they have not yet given me a definite answer. You had better, therefore, as soon as you are ready to do so, express your opinion to the government on this subject, and inform me also of your views.

"I shall not wait, however, for the advice, but secure the ground conditionally if I can, but I wish to hear from you as soon as possible in regard to it.

"If we occupy a space in the Park with objects of Group VI, it will necessitate the construction of a building suitable to the purpose at our expense; but I think we shall not hesitate about that if we want it, nor do I imagine Congress will hesitate.

"The government of the United States will not be satisfied to undertake an exhibition of the produce of the country on a diminutive scale, nor permit it to fall short and be deficient for want of room, nor on account of the additional expense this may involve. Belgium is in a similar situation, and has resolved to supply the room she needs by building on the Park, which, I have no doubt, will be permitted; but if we find we can do without it I shall be glad of it.

"This proposal does not affect the arrangements to be made for Groups VIII, IX, X, which belong to the Park, the provisions and allotments for which are now delayed by the Imperial Commission."

“No. 22.]

“PARIS, *November 29, 1865.*

“DEAR SIR: I am favored with yours of the 13th instant, which reached me last evening, and I take due note of your observation.

“You will by this time have acquired a good idea of the work to be done, and papers I send you by this mail will complete your impression of the best way of doing it. It is necessary to appreciate the difference between an irregular and defective exhibition, which characterizes itself by spontaneous movements without concert of producers, and an exhibition formed by the state, which should be well selected, classified, and complete in all its parts.

“You desire to know how long it will be safe to continue to receive applications, and the date of the latest mail which will reach here in time.

“It would be easy to reply to those inquiries if we could be governed solely by the demands of the imperial programme for January; but this is impossible. We must be governed by the requirements of the programme, taking the risk of failure; there is no other way.

“The first thing you have now to do is to sketch your plans of the ground for Groups II and V, (see my explanation of plan 3.) The second is to decide the space you will give (or thereabouts) to each class of objects in the respective group, and mark out the space in conformity; and the third is to select from your applications the most representative and suitable products, and form and file the groups and classes laid out in your plan.

“When this is completed your exhibition will be formed. This work requires knowledge of products, judgment, and care; it cannot be hastily done and well done, but it can doubtless be accomplished, and your plans drawn and catalogues made while Congress is deliberating.

“There will then remain but little to do after the decision of Congress but to announce to applicants the result of their applications. This announcement will constitute the definitive allotments of ground to exhibitors. It forms the contract between the exhibitors and the government, and between the government and the Imperial Commission, and cannot be made, of course, till authorized by the government, neither on your side with the applicants, nor on my side with the Imperial Commission. You will doubtless have the work so far advanced, in the form indicated, by the time you receive the orders of the government, that you can close up the part necessary to the report of January 31 in very brief time.

“This is all you can do in advance, and you must be governed by the movements of Congress up to that period; you cannot be governed by the requirements of the imperial programme. If we keep up with the action of Congress, (which we must do,) and still the business from the delay of Congress falls behind and finally fails, we shall have done all we could do. As you will see the movements of Congress you can shape your own by them; but should Congress decide sooner than I anticipate,

you must still take time to do the work in a proper manner. We were not authorized to begin sooner, and it would be a mistake to close the work prematurely, half done or badly done.

"It is easier to find a reasonable and acceptable excuse for taking the time absolutely necessary than to apologize for imperfect and bad work when it appears.

"As soon as it is decided that Congress will pay the expenses you will have applications enough, which will enable you to fill up the groups and classes, and form the exhibition in a more complete manner than you could otherwise obtain. But the work of filling up the groups and classes will doubtless involve some negotiations with exhibitors, and will inevitably require time, and the work should not be slighted; dispatch will depend on the skill and competency of your assistants. But I have no doubt of your being able to keep up with Congress, and you can judge better than I can when and what notice, or if any notice, to close the acceptance of applications, is necessary.

"If anything occurs to make it necessary to be more positive in regard to dates, I will of course advise you. All I can now say is, you have the programme and knowledge of the situation, and have only to use the greatest dispatch compatible with the circumstances and with the work which must be done.

"I have no doubt from what I have since heard of Mr. Evans,¹ he is qualified for the work I suggested, and will be very useful to you. You cannot get on without a competent man in that department, and if he is competent I may want him here. If Congress does not refuse to undertake the work, it will not refuse to pay the cost of it; if it does refuse, there is an end of it. No provision is made for the reception of the produce of any foreign country not presented by the government of the country, nor is it likely, under the circumstances, that producers would be willing to appear in any other way even if it were practicable, which it is not."

ADVISORY COMMITTEE.

Some of the citizens of New York who felt a deep interest in the proper representation of our country in the Universal Exposition, at the request of Mr. Derby, and with the approbation of the State Department at Washington, organized an "advisory committee" to assist Mr. Derby, particularly in making selections from the numerous applications for admission of products. The services of this committee were gratuitous. It consisted of ten members, one for each of the ten groups as set forth in the programme of the Imperial Commission. The aid of experts in each group or class was obtained, and great efforts were made, not only in the city of New York, but elsewhere, by journeys through portions of

¹ Mr. F. W. Evans, of Boston, Massachusetts, chairman of the advisory committee upon Group VI, who died while engaged upon the work of organization. Mr. Evans was educated as an engineer at the *École Centrale*, Paris, and his untimely death caused a great loss to the work.

the United States, to secure a full representation of the multiform and various products of the country. They had the benefit of the active co-operation of several State Commissioners, of many societies, and of private individuals, and occasionally had the opportunity of consulting with some of the Government Commissioners.

At a meeting of this advisory committee held in the city of New York, on the fourth day of December, 1866, the secretary, Professor Charles A. Joy, was directed to prepare an abstract of the minutes of previous meetings, and to state what further measures would, in the opinion of the committee, be required in order to carry on the work to a successful completion. From the report presented in conformity with these instructions, it appears that early in January of 1866 the following communication was addressed to Mr. Derby by the committee:

"Your communication of the 19th instant, informing us that 'upon consultation with prominent citizens interested in the growth and development of the resources of our country,' we had been designated as a committee to aid you in the selection of proper articles for exhibition in Paris in 1867, has been duly received; and after a brief consideration of the subject, and in compliance with your request, we beg leave to submit the following suggestions:

"This is the first time that the government has proposed to take part in a foreign exhibition. Hitherto the representation has been by individual effort and without system, and has been in no sense national.

"It is now incumbent upon those having the matter in charge to take prompt, efficient, and comprehensive action, to insure a creditable display of the products and productive capacity of the United States; and if, in consequence of the shortness of time and of inadequate appropriations, it is found that the work cannot be properly done, it would be better for the nation to be excluded from the Exposition than for us to send forward a defective and partial exhibition, which will be neither useful nor respectable, nor in any way representative of the products of the country.

"The representation of the United States at the Exposition of 1867, that would be satisfactory to its government and its people, and worthy of effort and expenditures, would be one that furnishes its representative products in each of the several classes as set forth by the Imperial Commissioners, so far as they are known to exist in this country.

"In our judgment, even if the time were not short, there would be great difficulty in undertaking to obtain these products by an appeal for voluntary offers; but under present circumstances, and expressly in reference to that of time, it is not to be expected that such measures will effect the desired representation, and that therefore recourse must be had to very different means in order to insure the end in view.

"First. As it appears to us, it is necessary that it be made known to the people of the United States that it is the intention of the government, in view of great and important national considerations, to take

the necessary measures, with the co-operation of its citizens, to have the products and productive capacity of the country fairly represented at the Exposition of 1867.

"Second. That the government will furnish all the transportation necessary from the seaports of the United States to Paris and back ; that it will provide agents to receive, take care of, and return the products furnished ; and that it will empower a suitable commission to apply for and receive applications in such detail as may be necessary for selection, and finally to determine what articles are to be asked for, obtained, and forwarded, and that, in defining the duties of such commission, it shall be specially provided that the best products of the several kinds shall be selected, and where there are numerous producers of the same class of products of the same degree of excellence, care shall be taken to apportion the articles among as large a number of producers as possible.

"A publication of this intention of the government, accompanied by an appeal in the proper spirit and language, and setting forth clearly what is asked for of the producers, and, impressively, the principle of fairness and impartiality that will be required of the commission, would, it appears to us, meet with a response which would enable the commission to perform its part.

"To some extent the commission might find it necessary to make special application to obtain creditable products. It would be of great service to such commission to have copies of the catalogues of the expositions of 1851, 1855, and 1862, in Europe, and of 1853 in the United States.

"The government of the United States ought to be a contributor, as is the case with foreign governments. It could order the whole of the larger parts of an engine for a war steamer to be set up in Paris, as a fair indication of our capacity in that class of production.

"Should the action of the government and of the producers of the United States be of the character briefly set forth, it is evident that no small space at the Exposition will be required ; and we deem it necessary to remark that, in view of such action, the spaces occupied in the expositions of 1851, 1855, and 1862, under entirely different influences, afford no proper basis of conclusion as to the allotment required in 1867.

"Not having before us any estimate of the expenditures required for the participation of the United States in the manner proposed, we can hardly with propriety name any sum ; but in our view of the urgent need of very prompt action, we deem it proper to say that it appears to us that not less than \$300,000 should be placed at the command of the appropriate department, from which the commission would receive its powers and instructions, and to which it would make application for such funds as may be necessary to perform the work intrusted to them.

"In this communication we have aimed to present, in a summary manner, the views which we have formed. Of course, very much remains to be considered and decided.

"If in the future proceedings it is thought that we can be of service, we shall be happy to meet you and to render such aid as may be in our power.

"For the advisory committee: [Signed by] Horatio Allen, Samuel B. Ruggles, Frederick Law Olmsted, Charles A. Joy, sub-committee."

An estimate of expenses was prepared in conformity with the above letter.

"Mr. Ruggles and Mr. McElrath, of our committee, repeatedly visited Washington to urge upon Congress the necessity for immediate action.

"They, with others, addressed public meetings and published articles in the papers of the day.

"It was not until the 5th of July last, more than a year after the attention of the government had been first called to the subject, that any appropriations were made, and those then made were quite inadequate in amount.

"The United States agency has therefore labored under disadvantages not experienced in other countries.

"The uncertainty which prevailed to some extent in Congress, in the peculiar condition, at a certain period, of our public relations with France, whether the United States would participate at all in the Exposition, and the consequent delay in the passage of the appropriation, rendered it impossible, at an early day, to arouse the national spirit to the extent that a different state of facts would undoubtedly have witnessed.

"Notwithstanding these untoward circumstances, a very considerable work has been done, and much more can be accomplished if immediate additional aid be rendered by Congress.

"The highest interests of the nation evidently demanded the utmost efforts of your committee to stimulate the country without delay to a full exhibition of its products, notwithstanding any temporary inadequacy of the appropriations.

"They have proceeded under the conviction that Congress, when fully acquainted with the magnitude of the subject, and its consequent necessities, would make any necessary increase in the appropriations.

"At the meeting of the Advisory Committee, December 4, 1866, the respective chairmen of the ten groups submitted full reports of what they had been able to accomplish up to that date."

Mr. William J. Hoppin, chairman of the committee for Group I, embracing works of art, &c., reported that a general invitation to participate in the Exposition had been addressed to artists and others, and extensively circulated in the newspapers. A committee charged with the duty of selecting was organized from among the owners of private galleries and familiar with the condition of art in this country.

"They adopted the rule to accept, if possible, only the best things we have done since 1855, and this rule necessarily excluded some interesting and creditable works, which, if the competition were among ourselves, and not between the United States and foreign nations, would

probably have been admitted. Want of space also compelled the exclusion of some valuable productions.

"It was determined to give great predominance to landscapes in our selection, because this was the department in which the American school of art has gained most distinction.

"In obedience to these rules, the art committee endeavored to decide which were the best pictures that had been painted by the leading men within the last ten years, and then to obtain these works by direct applications to their owners.

"In sculpture the same general rules of selection prevailed, and some of our best productions will be sent to Paris.

"The owners of these works of art expect no private advantages from this enterprise, and are willing, for no other motive than to increase the fame of the artists and the credit of the nation, to submit to the absence of their treasures for nearly a year, and to the risk of their possible loss. It therefore seems no more than reasonable that Congress should make an additional appropriation for return freight, premiums of insurance, and the necessary expense of an agent or custodian.

"The value of the works of art thus contributed and loaned by these individuals for the public benefit is at least \$150,000, and it would be exceedingly unjust and ungenerous if, in addition to the sacrifices made by them, they should be called upon to pay the charges indicated above."

Professor Charles A. Joy, chairman of Group II, embracing books, proofs and apparatus of photography, musical instruments, medical and surgical instruments, mathematical and philosophical instruments, &c., reported :

That there were 147 applications for space; of these 50 were withdrawn voluntarily or rejected, leaving 97 producers to whom space was assigned.

Mr. Samuel B. Ruggles, chairman of the committee upon Group V, and commissioner, reported :

"The chairman of this group, soon after his appointment by the government in July as one of the ten professional commissioners, for the purpose of securing adequate action by the country personally visited all the States from New York westward to Minnesota and Iowa inclusive, explaining the importance of the Exposition to the interests of the various portions of the United States.

"In these efforts, and especially in the northwestern States, he was actively and efficiently aided by two of his associates in the commission, Mr. James H. Bowen, of Chicago, and Mr. Henry F. Q. d'Aligny, of the Upper Peninsula of Michigan, and also by the zealous co-operation of several of the commissioners appointed by the several States, including Mr. J. L. Butler, of Missouri, Mr. J. P. Reynolds, of Illinois, and Mr. J. A. Wilstach, of Indiana."

The magnitude in number and in bulk of the contributions in Class 40 of this group, the products of mines and metallurgy, rendered it necessary to select only the most important and characteristic portions. It was therefore necessary to call in the aid of experts, not only to make the necessary selections, but to classify, label, and properly pack in boxes the specimens to be sent, and for that purpose to procure suitable rooms and several skilled assistants.

This labor for a portion of the collections sent to Paris from New York was performed chiefly by and under the direction of Professor Thomas Egleston of the School of Mines of Columbia College, in the city of New York.

Mr. F. W. Evans, chairman of Group VI, embracing machinery, &c., reported:

"The committee on Group VI was organized in July last, as soon as the action of Congress rendered it certain that the articles accepted could be sent. They had to select from about five hundred applications, and their aim has been to fill up the space allotted to them with representative articles for each class, paying no regard to priority of application, and taking care that every branch of manufacture and of industry comprised in this group should be represented.

"In order to do this, the space being limited, the committee had first to decide on the relative amount of ground to be allotted to each class, and then to fill up such space with the representative articles corresponding. This part of the work required careful study, much correspondence, and some travel, in order to see and understand, so as to decide knowingly on the merits of the articles for which space was demanded.

"Some of the best articles not being forthcoming, the committee deemed it advisable to solicit their representation, especially when such exhibition would necessarily entail great expense upon the owners. And it is to be regretted that it was not in the power of the agency to furnish material aid for some of the manufacturers of expensive and complicated machinery, whose exhibition would confer lasting honor upon the mechanical skill of the country without any immediate pecuniary benefit to the owners."

Mr. W. S. Carpenter, chairman of Group VIII, embracing animals and specimens of agricultural establishments, reported:

"That, under the prohibition by the minister of the interior in France, in view of the danger from the prevalent cattle plague, it was found impracticable to send live animals to the Exposition. The few articles applied for were transferred to Group VI."

In conclusion, the committee reported as follows:

"From the preceding abstracts of the reports of the chairmen of the ten groups some idea may be formed of the amount of work that has been accomplished by your committees in the limited time at their disposal. There have been about twelve hundred applications for permission to exhibit products. Some of them were made in the name of States,

and cover a large number of individuals. The number of persons directly interested in the Exposition amounts to several thousands.

"The money value of the articles to be exhibited cannot be stated with accuracy. It would be difficult to form a just estimate; but as only choice articles have been accepted, it can safely be put down at many hundred thousand dollars.

"Many products, the exhibition of which would have proved highly advantageous to the country, were practically excluded for the reason that there was no provision for return freight. To send them to Paris was, in some instances, equivalent to giving them away.

"There has been much enlightened patriotism displayed on the part of exhibitors. Many of them have expended large sums of money for the purpose of showing to the world what we can produce, and western railroad companies have liberally offered to carry freight for the Exposition free of charge.

"Your committee having been familiar with all the details of the work from the beginning, knowing what has been accomplished and how much may yet be done, are in the condition to state what further sums are required to maintain the credit of our country in participating in this world-wide enterprise.

"To sum up these necessities, there is urgent need of an immediate additional appropriation of one hundred thousand dollars to save the property of exhibitors and to complete the work begun.

"The enlightened citizens who have loaned their valuable works of art must be secured from pecuniary loss on freight and insurance; the expense of collecting, assorting, selecting, and labeling ores and minerals, and of publishing concise statistical statements of the extent and value of our mineral lands, ought to be defrayed by the government, with additional appropriation for return freight of suites of specimens which institutions and individuals are willing to loan for the Exposition.

"In the department of machinery the sum at the disposal of the agency is altogether inadequate; there is an absolute necessity for motive power in the supplementary building in the Park, or a very large class of exhibitors will be deprived of the opportunity of showing their machines in motion, and a considerable addition to the transportation fund is required to enable the agent to forward some of the most important machines yet offered.

"The fund is also inadequate for inland transportation in France and return of the packages to the seaport; also for the care of them in Paris and the necessary services of agents and interpreters.

"There is not sufficient money to defray the necessary expenses of the agent in New York, and it is safe to say that, but for the gratuitous aid received from persons not officially connected with the Exposition, and the meager salaries accepted by yourself and others, the work would have been seriously interrupted.

"In the original plan of organization, prepared by the secretary of

this committee, provision was made for the appointment of ten commissioners to report the scientific results of the Exposition, and it was proposed to give each commissioner authority to employ the necessary assistants. They should also be authorized, as a body, to appoint a secretary to keep and preserve proper records of their proceedings and their correspondence, and to provide rooms at Paris for meetings and business, with the necessary incidental expenses.

"Adequate provision should also be made for the expense of collecting and exhibiting the weights and measures, and especially the coins of the United States, reaching back to our colonial era, to properly prepare for the international discussion invited by the French commission of the very important question of a common unit of money for the use of the civilized world. The successful establishment of a coinage of uniform weight and fineness, and common to all the nations of the world, would annually save hundreds of thousands of dollars to the citizens of the United States.

"For the necessary objects above specified, your advisory committee are of opinion that an expenditure of fifty thousand dollars by the professional commissioners will be necessary, and should be appropriated by Congress.

"It should be considered, moreover, that the task which has been assigned to these ten commissioners, of preparing a report or series of reports upon the Exposition, and upon the several departments of industry which will be represented in it, is one which, for its proper execution, will require a species of assistance for which no provision has been made in the resolutions under which they have been appointed. In order that such reports may subserve the purpose intended of promoting the advancement of the arts of industry in the country, and thus contributing to the national wealth, they should exhibit not only the present condition of each department, but also some sketch of its history, and some account of the progressive steps by which it has reached its present state of perfection. They will consequently require a large amount of special study and of correspondence or personal communication with the scientific and practical men of other countries.

"For the intelligible presentation of the results they will require to be illustrated by numerous drawings and diagrams, exhibiting the constructions, apparatus, and machinery employed in the various processes which they describe. The purely mechanical labor of digesting the literary material thus collected, and of preparing the illustrations necessary, would be more than sufficient to occupy all the time of the commissioners, were not their proper task a higher one than that of mere historians. If their labors are to be practically useful, they must be free to study, discuss, and criticise the objects and processes upon which they report, to bring into clear relief whatever is most meritorious in each, and to point out the particulars in which improvement is still to be desired, and the directions in which it may be sought. They should,

therefore, be authorized and enabled to employ such artistic and professional assistance as may relieve them of that portion of their work which they could only perform in person, to the great prejudice of the final value of their reports.

"The necessity of providing the commissioners with such assistance was early perceived and pointed out by Professor Joy in a letter to yourself published by Congress and by the Commissioner General of the United States in Paris.

"In a communication addressed to the Secretary of State under date of 31st January, 1866, Mr. Beckwith, with the intelligent forecast characterizing all his official communications, remarks: 'The resolutions presented to Congress on the 21st of December proposed appropriations for a scientific commission of ten members, corresponding to the ten groups of products. *But this number, unassisted, will not be sufficient.* It will devolve upon them not only to make the requisite studies and reports, but also to serve on international juries. The latter service, though requiring much time, will afford the best opportunities for information resulting from the investigations, experiments, and discussions of the juries. But they will not be equal *to the work without assistants*, and they can be obtained at a moderate cost. The services of scientific and professional assistants can be engaged, whose special studies, colloquial knowledge of continental languages, familiarity with the continental nomenclature of the sciences and industrial arts, together with their personal acquaintances, access to sources of information and works of authority and local knowledge in general, will render their services as assistants highly efficient. The scientific commission thus supplemented will be equal to the work required of it, and more useful labor can be accomplished in this way at less cost than in any other way.'

"The Advisory Committee have reason to believe that the several governments of Europe which have resolved to participate in the Exposition have not been in any case unmindful of this important provision. Our professional and scientific commissioners cannot but deeply feel the disadvantage under which they must necessarily labor, unless Congress shall see fit to concede to them the same aid in the execution of their task as will be enjoyed by their fellow-commissioners from other lands.

"By reference to the early correspondence between the Commissioner General and the minister of the United States in Paris, it will be seen that the appropriations already made by Congress fall short by more than forty thousand dollars of the sum estimated by the Commissioner General as the very minimum necessary to secure for our country a creditable representation at the Exposition, and very much further below what he thought desirable. These estimates were made with a perfect knowledge of what other governments were doing, and could have been dictated solely by a patriotic desire, not only to secure to our country all the important advantages which may be made to flow from this great

international comparison of industries, but also to see her honorably sustaining her part in this most generous of rivalries.

"His estimates will be found in a published correspondence, in a letter addressed to Mr. Bigelow under date of November 22, 1865, and it will be seen that all the additional appropriations asked for by the undersigned might be made without transcending the limits assigned by him, and which the necessities of the case, as they have developed themselves, have shown to be too low.

"The Advisory Committee beg leave further to submit that the provision of the joint resolution of Congress making an appropriation of a certain definite sum for the purpose of defraying the personal expenses of the ten commissioners while engaged in the discharge of their duties, might with propriety be modified. While these professional men may desire to derive no pecuniary advantage from their connection with the commission, it cannot be proper or just that they should suffer positive pecuniary loss. Their services, if properly performed, cannot fail to be of material benefit to the country. If worth having, they are worth paying for. Their terms of service, including the time occupied in going and returning, extend over a period of eight months. A moment's consideration is enough to show that the cost of a voyage to France, out and back, and the necessary expense of living for such a length of time in a foreign capital crowded with visitors, and at prices greatly enhanced, are most inadequately met by the appropriation in the joint resolution. It would surely be more just, and far more consistent with the dignity of the nation, that provision should be made for the payment of the actually necessary expenses of the ten commissioners, to be duly audited on proper vouchers by any appropriate officer of the government.

"In conclusion, and in view of the preceding facts and considerations, we, the undersigned, are of opinion that the pecuniary means now at your disposal are quite inadequate to the requirements of the various industrial and public interests of the country.

"We therefore respectfully recommend that you make immediate application to Congress for an additional appropriation, amounting in the aggregate to one hundred and fifty thousand dollars.

"The total expenditure would even then fall considerably short of the proportionate expenditure by most of the countries represented in the Exposition, but it would enable the United States to maintain to a fair extent its just rank in this great concourse of nations."

This report was addressed to Mr. Derby, and was signed by the chairmen of the admission committees of the ten groups.

RESOLUTIONS ADOPTED BY THE CHAMBER OF COMMERCE.

A special meeting of the Chamber of Commerce of New York was held on Friday, January 12, 1866, to hear the report of the committee, consisting of Mr. Samuel B. Ruggles, Mr. Denning Duer, Mr. George Op-

dyke, Mr. J. S. T. Stranahan, and Mr. Elliot C. Cowdin, in relation to the Universal Exposition of Industry to be held in Paris in 1867; President A. A. Low in the chair. The Hon. Samuel B. Ruggles, in behalf of the committee, reported the following resolutions for adoption:

“Resolved, That the Chamber of Commerce of New York have learned, with profound satisfaction, that the government of the United States has accepted the invitation of the government of France, to unite with the other governments of the world in the Universal Exposition at Paris, in April, 1867, of the products of each; and will confidently rely on the intelligence and liberality of Congress to make timely and adequate appropriations for exhibiting the products of the American Union on the proposed occasion, in such a manner and on such a scale as shall maintain its just rank among the civilized nations of the earth.

“Resolved, That in view of the well-considered action of the French government calling upon all its departmental authorities, including the Chamber of Commerce, boards of trade, and academies of art, to co-operate, within the proper limits of their authority, in the enlightened design of fully displaying the products of France, the Chamber of Commerce of this the principal national city of the United States feel called upon to exert whatever influence they may possess with their fellow-citizens throughout the Union to induce them promptly to furnish to the proposed Exposition, in the most liberal manner, such specimens of their products of industry or art as may elevate our national character; and to secure more effectually this object, they do now invite appropriate action on the part of the other chambers of commerce and boards of trade of our country.

“Resolved, That it be referred to a committee of five members of this chamber, to invite the attention of the chambers of commerce and boards of trade in the different cities of the United States to the peculiar national importance, both political and financial, of the proposed Exposition, in exhibiting to the governments and the peoples of Europe the natural and industrial resources of the American Union, now happily restored in its full constitutional authority.”

Mr. Ruggles supported the resolutions with eloquent and appropriate remarks, after which Mr. Cowdin addressed the chamber on the subject.

The resolutions were unanimously adopted, and the committee authorized to forward them to Congress, and also to the various chambers of commerce and boards of trade throughout the country.

EFFORTS TO OBTAIN EXTENSION OF TIME.

Mr. Beckwith to Mr. Seward.

“PARIS, January 25, 1866.

“I beg to acknowledge receipt of your letter of the 30th December, advising reception of my communication of the 15th, and to thank you for the attention it had received.

"I think you will desire to be informed exactly of our relations to the Imperial Commission in regard to the extension of time, and I take leave to annex hereto copy of my letter to Mr. Derby of the 24th instant, which contains at once a statement of the situation and my advices to him in conformity therewith, for his guidance."

Mr. Beckwith to Mr. Derby.

"PARIS, *January 24, 1866.*

"DEAR SIR: I am favored with your letter of the 5th instant, No. 15, and am gratified and encouraged by the good spirits in which you write.

"The action of the Chamber of Commerce will undoubtedly receive the favorable consideration of Congress, and if followed immediately by the concurrent action of other chambers, the movement will have still more weight.

"The decision of Congress is vital, and if the Exposition is worthy of their attention, it deserves immediate attention, before it is too late.

"My letter of the 23d of December, No. 31, will have relieved you, I trust, from immediate anxiety in regard to time for filling up classes, and enabled you to go on with the work without interruption.

"I regret that I cannot make the extension of time definite and name the utmost limit that can be obtained.

"But I feel no hesitation in suggesting that it will not exceed three months from the 31st instant, and this is more than I think the Imperial Commission would now consent to.

"You should not, therefore, undertake anything on a scale which cannot be brought to maturity so as to enable you to complete the list and catalogue within this time.

"We must bear in mind that near ten months have elapsed since the proposal of the French government was communicated to the cabinet at Washington, that Congress assembled early in December, that the French government has not yet been informed that the United States will take part in the Exposition, and that we are not yet authorized to make definitive engagements with the Imperial Commission.

"The embarrassments resulting from this delay are not mitigated by their being unavoidable. We are, therefore, not in a favorable situation for asking the Imperial Commission to put themselves to further inconvenience. We should be able, first, to report to them the favorable action of Congress, which would carry the assurance that the changes we ask them to make would not be made in vain.

"Neither is it expedient for us to move in this prematurely, and present to the Imperial Commission occasion to act under circumstances so unfavorable to us as to be likely to result in giving us less time than we may expect at a later period.

"The date when the second report will be due (31st instant) has not yet arrived. Previous to that the Imperial Commission cannot act on its own impulse. It is therefore safe to wait and leave the initiative to

them, and, as they know our situation and are disposed to favor us, they will not move in the matter till they are obliged to. When they call on us to report I will respond and make the best terms I can for time; but before this event occurs I fully expect the action of Congress will change the situation and make it more favorable.

"The Imperial Commission is well disposed to aid us in regard to time 'as much as it can,' and I observe that 'it can' a little more, if we help them to help us, by leaving to them for the present the difficulty of preventing us from helping ourselves.

"I have fully explained the situation to Mr. Bigelow, and we are of one opinion on the subject.

"I have also discussed it with M. Le Play, and have informed him that I shall at present leave the initiative to him, but that we cannot afford to cut the work short at this stage and spoil it, and must assume that as much time as possible will ultimately be granted.

"His replies are made under the reserves which comport with his relations to the Imperial Commission, but he appreciates the situation, and is satisfied with the course which, for the present, I propose, and this leaves me no uneasiness on the subject.

"Be assured that I shall obtain as much time as can be obtained, which, I think, will in no case exceed three months, and shall, in so doing, preserve a good understanding with the Imperial Commission, which is all that the situation requires—at all events, all that it admits of.

"The time we have lost cannot be recovered nor wholly made up from the future, and we shall suffer some inconvenience from it.

"The gentlemen you name as having come to your aid will be of great service to you, and I am happy to learn that they are willing to lend their influence and co-operation.

"The estimates of cost of a suitable building in the Park, returned to me, were so unsatisfactory that I abandoned the idea of producing them as a basis for appropriations.

"I subsequently obtained estimates from the architects of the Palace, who compute the cost of what we shall require at about five dollars per square yard of ground covered by a building, and I have reported this estimate to the Department of State."

Mr. Beckwith to Mr. Seward.

"PARIS, April 29, 1866.

"SIR: The Imperial Commission has thus far assented to the delays I have been obliged to ask for, which it was possible to grant, without arresting the progress of some portion of the works in the Champ de Mars.

* * * * *

"It is necessary to the progress of the works in the Champ de Mars that we should now decide and agree definitively to occupy the ground reserved for us or relinquish it, that it may be prepared for other uses.

"The annexed letter on the subject, addressed to me by the Imperial Commission, sets forth fully the situation of the Park business, and indicates the necessity of an early decision. The letter is accompanied by a plan showing the ground reserved.

* * * * *

"I have, therefore, asked for the further delay requisite to make this communication, and that I may be exactly informed on the subject before surrendering the ground, if it be not possible to retain it."

* * * * *

"PARIS, June 1, 1866.

"I annex hereto a letter from the Imperial Commission. * * * It sets forth very clearly the progress and present situation of the preliminary work for the Exposition, and the necessity for proceeding on our part, and fixes the 30th of June for the delayed reports due from us.

"I am not without hope that the action of Congress will have enabled Mr. Derby to proceed, and that he will be able to close up and send in his report by the time named."

M. Le Play to Mr. Beckwith.¹

"PARIS, May 26, 1866.

"I have the honor to remind you that, in accordance with article seven of the general regulations, the foreign committees are requested to furnish a plan of places to the scale of 0.002 of a metre, indicating by group and class the space assigned to each exhibitor, with the exhibitor's name, previous to the 31st of January, 1866.

"It is now four months since the expiration of the time, and the Imperial Commission, not having received that document, needs the information, in order to complete the construction of the general plan.

"The Imperial Commission leaves the foreign commissions free to arrange their articles as they please, within the space allotted to them, provided the principles of general classification are regarded; but certain measures must be considered together, by comparing the plans of the different states, and settled jointly, for the following reasons:

"Each nation, as you know, is separated from its neighbors, on one side by a partition put up by joint expense, and on the other by a passage-way. In regard to this partition, the architects wish to make a certain number of doors in it, to afford a free circulation. The Imperial Commission offers its kind mediation to arrange this communication between neighboring states; but this cannot be effected without an exact knowledge of the mode of location adopted by each party, and this information is indispensable, in order to agree upon the height of the partition, the position and dimensions of the screens, &c.

"Along the passage-ways separating two joining nations the different commissions intend to erect ornamental fronts of a national style of architecture. Two opposite fronts, though differing essentially in their

¹ Translation.

general appearance, must have a similarity of construction, which cannot be determined upon without seeing the plans.

"I have the honor to inform you that the Imperial Commission has appropriated the seventh gallery for particular public purposes, as post and telegraph offices, police station, fire-engine, talking-room, water-closet, dressing-room, &c. The commission is now ready to begin this work, but must first know the plans of exhibitors near the locality.

"The eating-rooms and such places in the foreign department are to be constructed by national workmen appointed by the different commissions; but, in case it is neglected, the Imperial Commission will have the work done by Frenchmen; it is, therefore, absolutely necessary to have the plans and specifications to complete the work of this branch.

"Section seventh of the gallery, lighted at night and open to the public, must be separated from the Palace, which will be closed at sunset. The Imperial Commission is now arranging this department, and, as it wishes to pay due deference to the plans of the foreign commissions, the construction of that portion of the edifice will be put off till the 30th of June, hoping to get the necessary information by that time.

"The buildings in the Champ de Mars are advancing, and in two months a large part of the Palace will be done. Exhibitors should take possession as soon as possible.

"I have already mentioned that it is desirable that foreigners should have their show-cases made at home, so that everything may accord in nationality; yet everything of the kind can be made here, by Frenchmen, if exhibitors prefer it. As the opening of the Exposition approaches, workmen will become more scarce, and they will raise their prices for labor; so it is better to have everything done at once. A strike among the workmen might, moreover, cause some delay toward the last.

"For these many reasons, I beg you to forward to me the plans for the United States by the 30th of June. Of course a modification of the plans can be subsequently made. Send me also a plan of the houses to be erected in the Park, and the trees to be planted by the United States Commission in the allotted space, as announced on the 25th of April last."

RE-TRANSFER TO PARIS OF THE LABOR OF APPORTIONMENT OF SPACE.

Mr. Beckwith to Mr. Derby.

"PARIS, October 11, 1866.

"I beg to acknowledge receipt of your favors of the 22d, 24th, and 25th; Nos. 45, 46, 47, 48, and 50. No. 49 has not been received.

"I have also received the lists of applicants in the different classes of Groups II, III, IV, V, VI, VII, VIII, IX, and X, and the supplementary lists of applicants and withdrawals, named in the above correspondence.

"I will reply more fully to your letters herein acknowledged in a short

time. I cannot express my surprise and my embarrassment arising from the incompleteness of these reports.

"With the exception of the Palace portion of Group VI, which is well formed, nothing definitive has been done.

"In my letter, No. 114, I referred back to your committee the work of completing the formation of Group VI, in the annex.

"I beg now to cancel that reference, as it is impossible to wait for the work to be done on your side.

"All the other Palace groups are equally unformed, and there is now no possibility of avoiding a complete failure of our exhibition but for me to undertake the formation of the groups myself.

"I shall have to estimate the space for each product, place it, allot the space to applicants, make the plans for structures, in that conformity, from the catalogues which must be an exact index of this, and report them to the Imperial Commission for the great catalogue which is now printing and will be a finality, and then proceed to construct the installation to correspond with these arrangements.

"To do this, I have procured the best aid I can obtain, and we are engaged upon the work day and night.

"The applications will not fill some of the groups; in others they will be greatly in excess of the space.

"Those for Group VI far exceed the ground and the money, both on your side and on this side, and must be greatly reduced.

"As soon as it is possible I will send you a list of the products to be received, and a separate list of those which cannot be received, and request you to advise both parties of applicants in that conformity.

"This will be definitive, as the catalogues will be printed, and the works constructed, to correspond with this distribution.

"I make these observations with the utmost reluctance. I am convinced of your attention, and zeal, and earnestness, and I know you have had difficulties.

"But the work thus thrown upon me forces me to undertake it myself, and accomplish it as I best may, which requires an explanation of what I am doing; or to abandon the Exposition, which would be a dereliction of duty that is impossible."

Mr. Beckwith to Mr. Seward.

"PARIS, October 11, 1866.

"SIR: I am under the necessity of reporting to the department the present state of the Exposition.

"The work of receiving applications, allotting space to applicants, and making plans and catalogues in conformity, upon which the necessary structures to receive the products could be made in advance of their arrival, was committed to Mr. Derby about twelve months since, and he was recommended to form a suitable committee to advise and assist him.

"Mr. Derby reported in due course that he had formed a board of able assistants, and would proceed with the work as rapidly as possible.

"The inaction of Congress caused delays, and I obtained corresponding extensions of time, which were protracted to the last moment compatible with the possible execution of the preliminary work on this side.

"I have now received from Mr. Derby the reports of what has been done; but with the exception of the formation of a part of Group VI, nothing definitive has been done.

"There have been no allotments of space to exhibitors in any of the other groups; the products have not been placed in them, the space they will occupy has not been ascertained, consequently there are no plans of the structures required, nor any catalogues, forming the index to this work, to be reported to the Imperial Commission.

"A portion of Group VI, in the Palace, has been formed, and it is well done. But the other seven or eight groups are unattempted; the ground is vacant, and presents only imaginary sketches of *pro forma* plans, similar to those which were sent from this as models nearly a year since.

"In place of all this work I have received nothing but lists of applicants, and of their products, copied from their applications, and arranged in classes.

"But the space these products will occupy is unknown; the space required by the applicants is not named; and with the exception of Group VI, the applications themselves have not been sent—nothing but the brief lists of names and products, as above stated.

"I have neither allotments, plans, nor catalogues, nor the elements of which to make them in a proper manner.

"The Imperial Commission is now printing the great catalogue, and pressing for mine, which has been promised, but I have none to report, and the structures must soon be begun or they cannot be made.

"There remains but one possible way of avoiding a complete failure of our exhibition.

"I must undertake myself to estimate the space each product will occupy, with the allotments of ground to applicants, form the plans of structures to correspond, compose the catalogues in this conformity, and report them to the Imperial Commission for publication, and proceed to make the necessary structures, as I best may, on the slender information above described.

"I have not any doubt that it is my duty in this emergency to adopt this course, for no other but failure is possible; and having solicited the aid of the most capable persons within reach, we are now engaged upon it day and night, and shall be able to report it in a few days to Mr. Derby for his guidance in advising applicants of the result of their applications, and in collecting and forwarding the products.

"Some of the groups will not be quite filled, but in others the applications are greatly in excess of the space or of the provisions of Congress for the expenses, and large numbers will be excluded.

"This I am most desirous of avoiding, because it will give disappointment and dissatisfaction to applicants, but it is not possible to avoid it.

"It is not in my power to make this brief and accurate statement of the situation without appearing to reflect on the work of Mr. Derby.

"But that is not my desire; on the contrary, I am convinced of his attention, his zeal, and his earnestness, and that his failure in completing the work placed in his hands is owing to his inability to obtain the requisite assistance, from some cause which he can probably explain, but which is unknown to me."

NECESSITY OF EARLY INSTALLATION OF MACHINES.

Mr. Beckwith to Mr. Derby.

"PARIS, November 4, 1866.

"I beg now to recall your attention particularly to the documents accompanying my letter of the 24th of June, published by you, page 45, [Third supplemental circular,] article 18, as follows:

"Between the 1st and 14th of April each class jury of Groups II, III, IV, V, VI, and X will examine the products and class the exhibitors deserving prizes, without distinction of nationalities."

"This important work will be completed within the first fourteen days after the opening of the Exposition, and the reports thus made will form the basis on which the awards will be made.

"The time allowed appears, at first sight, short, but there will be sixty-eight separate juries, which is one jury on each class in these groups, and they will work separately and simultaneously.

"The labor being thus divided, the time will be ample.

"My object at present is to remind you that we have designated between sixty and seventy machines to be installed and put in motion in Group VI; and if this labor be not completed, and the machines in full and perfect action at the opening on the 1st of April, they will lose their chance of favorable reports from the juries, and consequently of the awards which their qualities, displayed in action, might command.

"Machinists will appreciate the labor which is requisite to place and adjust in good working order so many machines, and that this cannot be done but by the concurrence of many persons within the time that remains for it.

"I have already stated to you in previous letters the defects in the information required for foundations which should be laid before the frosts set in, and have only to repeat my hopes that the necessary information will arrive in time.

"I wish now to repeat also, and it should be made known to the owners of each of the machines, that no preparation can be made in advance for the transmission of steam by separate steam pipes, nor of force from the main shafts to the respective machines.

"These transmissions and the structures they may require will be at the expense of the owners of the machines respectively.

"The machines to be operated should, therefore, be sent forward as early as possible, and the machinist who is to set up and work the machines, or each machine, should come with it, prepared to complete the work at once, and to defray the expenses each of the machines may require.

"If the owners of the machines do not respond with alacrity to this request there will be lamentable defects in this department at the opening, and it is the department in which our strength lies—where we shall be successful, if anywhere.

"If any of the parties whose machines have been designated for action are not prepared to do the needful in good time, I beg to be notified of this at once that other machines may be substituted, if possible.

"I will thank you to communicate the substance of this letter to each of the parties interested as early as possible.

"I have already been notified informally that a portion of Group VI will be delivered to me in a few days, on which I can commence work, and I expect shortly the delivery in form."

MOTIVE POWER.

Mr. Beckwith to Mr. Derby.

"No. 14.]

"PARIS, November 8, 1865.

"DEAR SIR: Class No. 52, in Group VI, comprises machines and apparatuses suited to the uses of the Exposition.

"The plan of the special committee to which the most of this work is assigned is to supply motive power to the Exposition, as far as practicable, by using the machines exhibited.

"The arrangements for steam power are as follows:

"The machines and apparatuses to be moved by steam power belong to Classes 47 to 66, Group VI, and will occupy the great gallery (hall) forming the outer circle but one of the Palace.

"The furnaces and generators will be placed in the Park, outside the walls of the Palace, in a circular line, parallel with the wall, but at equal distances from each other, to correspond with the different localities within the Palace requiring steam.

"This service will be divided into fourteen sections, organized and worked separately.

"The force will be transmitted to shafts in gallery No. 6; the shafts will extend in polygonal lines, yielding to the curve of the gallery, and transmitting the force to various machines to be moved.

"It is proposed by the commission to supply requisite motive power by letting the work in sections to contractors *a forfait*, (by the job)

"The annexed document in lithograph presents the conditions and bases on which the commission invites the offers of contractors, and

they engage to give a preference to the contractors belonging to the nationality to which the contract may apply.

"It may be doubtful if any of our good engineers happen to be familiar enough with the elements of such a contract, such as the cost of material, fuel, labor, living, &c., in Paris, to enable them to make safe estimates and offers; and equally doubtful whether their present employment is not more remunerative than any they would be likely to obtain here, in competition with lower wages, permanent residence, and better knowledge of the situation. But there may be those who may be able to see their interest in it, and, in conformity with the inventors of the plan, and the wishes of the committee, I submit the matter to your consideration."

"No. 39.]

"PARIS, *January 16, 1866.*

"I had the pleasure to address you this morning, and have received this evening your favors of the 22d of December, No. 10, and of the 23d December, Nos. 11 and 12.

"No. 10 relates to the efficient measures you propose for disseminating the information therein alluded to, and refers to the difficulty of engineers in offering to supply motive power for machinery in the absence of specific information regarding the price of labor, fuel, board, and other elements of cost.

"I had foreseen this difficulty, but not the means of obviating it.

"I have sent you all the documents and all the information on this subject provided by the engineering department. They consider it in the province of contractors themselves to make the investigations on which their offers must be based. It is an object with the department, in adopting the contract method, to divest itself of the labor and responsibility of the estimates and of the fluctuations of market prices which fall to the side of the undertaker.

"I will make further inquiries in other quarters, being desirous of having the motive force supplied by our own engineers, but I have not much expectation of being successful in the inquiries because the subject requires the investigation of a practiced engineer, whose researches can be relied upon as the basis of contract.

"I have no authority to employ an engineer for this purpose. Indeed, the first step of a contractor should be to make or provide the means of such investigation for himself, as that is a part of the labor and expense intended to be thrown on him and is implied in his contract.

"The general disposition of the apparatus for the motive force you will find, I trust, sufficiently indicated in the cahiers I sent you, and as the American section will be operated by itself you will have in your own hands the elements for computing the aggregate force required, the velocities, &c., for it is upon the elements to be supplied by you that the Imperial Commission itself would have to make those estimates.

* * * * *

“No. 41.]

PARIS, January 22, 1866.

“Referring to my letter of the 16th instant, No. 39, I have not been able to obtain the information requisite as to the cost of materials, &c., on which a contract could be safely made for the supply of motive power in Group No. VI. But I have made an (verbal) understanding with the *chef de service* in the engineering department, by which he agrees to pay an American contractor the average price paid to French contractors for similar work.

“This is the only basis for a contract which I can give you, and, from the nature of the case, I imagine that this method will be followed by other nations who may wish to have their own engineers employed, but who will have the same difficulties in obtaining local information as to cost of elements.

“If, therefore, you can arrange with a respectable and responsible party, in whom you have confidence, who wishes to exhibit his machinery, and is desirous of working it for the supply of motive power on the terms above named, please do so.

“The arrangement on your part will be provisional, and you will transfer the contractor to the Imperial Commission to complete his contract. He will be their employé, and under their orders, and will receive his pay from them, but you can assure him the contract upon the basis above named.

“The nature of the service to be performed, the apparatus to be supplied, the structures to be made at his expense, the hours of work, the prolongation or abridgment of time, and all the general conditions and regulations applicable to the contract, and binding upon both parties, are set forth in the document accompanying my letter No. 14, of November 8th, p. 55, with all which conditions the contractor should first make himself acquainted.

“You will be able also to inform him pretty nearly as to the amount of motive power you will require. This is of moment because the outlay and preparatory expenses of the contractor will be as much nearly for the supply of a small force as for a larger one, while the pay will be in proportion to force. If, for example, you want thirty horse-power, and the price is \$100 per horse for the season, (which perhaps is not a bad guess as to probable offers,) the contract money would amount to \$3,000, and for sixty horse it would be \$6,000, while no such increase of cost in fixtures or structures would occur. It is also for the contractor to consider that he must arrive in advance, complete his contract, and see that he has his apparatus in order for work in time; the days get short and weather bad, and work expensive late in the season. I should think October would be as late as it would do to arrive here and commence the placing of apparatus.

“I have only to add to these observations that the Imperial Commission is now engaged in making contracts, and is desirous of being informed, as early as convenient, whether or not you will provide a con-

tractor, and I have informed the commission that, I think, within a fortnight after you receive this letter you will be able to satisfy yourself on the subject, and will advise us in conformity."

Mr. Beckwith to Mr. Seward.

"PARIS, May 6, 1866.

"SIR: I had the honor to address you on the 29th April, transmitting a letter from the Imperial Commission on the subject of the ground which we propose to occupy in the Park.

"I now transmit another letter from the Imperial Commission on the subject of motive force, dated the 3d instant, and received this morning.

"I beg to state briefly that the method adopted for supplying force for machinery is by separate contracts for each national section.

"Each nation may employ its own engines and engineers, and, for the force thus furnished, six hundred francs per horse-power will be paid by the Imperial Commission, or the nations may decline furnishing the force they require, and leave it to the Imperial Commission.

"An excellent opportunity is thus presented without expense to the exhibitor to display the qualities and results of his engine-boilers and apparatus.

"I transmitted to Mr. Derby early in November the general plan and conditions, (which have been printed and published in the United States,) and desired him to advise me in due time whether or not he would furnish a contractor for the motive force, and if not, to inform me of the amount of force he would require, that I might request the Imperial Commission to supply it.

"On the 8th April, at the request of the Imperial Commission, I applied to Mr. Derby again, informing him of the necessity of immediate decision.

"But owing, I doubt not, to the delays in Congress, Mr. Derby has not been able to arrive at any decision, and I am without information on the subject.

"The Imperial Commission now calls on me (in the annexed letter) to enter into a contract with them to furnish the motive force which we may require, or to decline it definitely, and, in so doing, inform them what amount of force we will need, that they may contract for it, and proceed to construct the necessary works. They remark, also, that if I cannot comply with either of these demands, the works in general must not the less go on, and they cannot be responsible after the present notice for the inconveniences which may result to us from further delay in this department.

"I have concluded not to reply to this letter until the last moment which M. Le Play will concede to me, and if advices do not arrive to relieve me from the embarrassment, I must then surrender the privilege of our exhibitors to furnish their own motive force, and request the Imperial Commission to supply it.

"This is the only course that appears open to me, but it is not likely to result very satisfactorily. I must assume the amount of force we shall need. If I fix it too high, and the Imperial Commission make the contract in conformity, and commence the construction of furnace, chimney, steam-pipes, &c., for a larger force than we shall need, they will have to compromise subsequently with the contractor, or pay him for wasted force, and in either case they will suffer some loss which they will probably ask me to pay. If, on the other hand, I fix the amount too low, we shall be without the requisite force.

"I feel bound to acknowledge in this connection the continued disposition of the Imperial Commission to yield all the delay that is possible. But we are now on the fourth month of delay, at our own special request, and I am aware that the works on the Champ de Mars have reached a stage which requires the question of force to be settled.

"It is also evident that similar questions will continue to arise in pretty rapid succession which will not admit of further delay."

*M. Le Play to Mr. Beckwith.*¹

"PARIS, May 3, 1866.

"MONSIEUR LE COMMISSAIRE: The Imperial Commission has recently settled the details of the organization of the mechanical service; they have approved the contracts made with the furnishers of force, and the general dispositions for the transmission of the force.

"It is, therefore, indispensable that, without loss of time, the committee of the United States of America proceed to a similar work, which the information contained in this letter will enable you promptly to complete.

"You have already learned, from reading the third instruction, (of which I send herewith another copy,) that the general transmission is made by two [parallel] shafts, distant from each other 4^m.71, elevated 4^m.36 above the ground, and communicating movement to each other. The shafts are 0^m.29 in diameter, forming polygons of which the sides are 13^m.8 in mean length, producing an angle between them of about 5°. The revolutions for the French section will be one hundred per minute, but the American section having no connection of movement with neighboring sections, you can choose yourself, according to your wants, the velocity which seems to you most advantageous.

"I pray you only to recollect, in determining the velocity, the fact that the general arrangement will not admit of *poulies* (wheels on the shafts) of more than 1^m.00 in diameter.

"This general transmission thus suspended is very expensive, costing not less than six hundred and fifty francs the running metre. It is, therefore, of great importance to reduce the length of the shafts as much as possible. In the French section the movement is supplied to about

¹ Translation.

one-third the length of the Gallery VI. It is confined to certain localities, leaving others without motive force; and finally, in regard to certain localities which require but feeble force, we have provided it, not by transmission direct from the main shafts, but by one of the three following methods:

"1. By special motor.

"2. By a small secondary shaft in rear.

"3. By a shaft under ground.

"I hope the Commission of the United States will adopt the same principle to regulate the installation of their machines.

"Not having yet received definitive advices of the arrangements they intend to adopt, and being unable to wait for full advices before ordering the supports and shafts of which the execution requires a great deal of time, I think it necessary to fix upon a plan of placing them analogous to that adopted in the French Section.

"The plan hitherto annexed indicates the position of the shafts (on this hypothesis) in your section.

"The transmissions will occupy a *travée* of 14^m.00, and will have thus a double length of shaft, say 28^m.00. It would seem that this should be sufficient for your wants; if not, or if you wish to substitute the *travée* indicated by another, which you find more convenient for your installations, or, finally, if you think you will not have need of this length, I pray you to inform me immediately, in order that I may consider it while there is yet time.

"If any apparatus which ought to move be placed outside of this *travée*, it will receive its force from one of the three methods above named, which you can choose and apply in each particular case.

"A platform, supported independently of the transmissions, 4^m.00 in breadth and 5^m.15 in height, will extend continuously (except, perhaps, across the great entries) the whole length of Gallery VI, (*des arts usuels*.)

"This will serve as a promenade for visitors, who will find in the *salons garages* (enlarged spaces with seats) in the middle of each sector a place of rest, where they can sit and enjoy the spectacle of mechanical activity displayed at their feet. Certain exhibitors of objects of great height, which occupy two stories, expect to derive great benefit from this platform by carrying a passage from it to their second story. I allude particularly to some exhibitors of agricultural machines, sugar apparatus, light-houses, organs, &c. Similar arrangements might be adopted in your section, which would render its appearance more impressive.

"It will be indispensable to regard the supports of the platform in placing your apparatus.

"The general plan herewith indicates exactly the places of the supports.

"These arrangements being well defined, it remains to consider those which belong to the furnishing of the motive force.

"All the contracts that have been made with French undertakers for our French Section have been made on the basis of six hundred francs per effective horse-power, measured on the shaft. This sum serves equally for base in our contracts with England and Belgium, and the same should be adopted by you, if, in conformity with my preceding communications, you have organized yourselves your mechanical service with contractors of your country. This sum includes also the furnishing and placing completely of the furnace, boiler, engine, transmission, construction of the building for the boilers and furnace, the chimney, the steam-pipes, and the passage in which the pipe is laid, the combustibles, and the persons required for the apparatus. It is also understood that all these materials remain the property of the contractor after the exhibition

"I send you herewith a form of contract which indicates the principal conditions of these agreements made directly between the Imperial Commission and the foreign commissioners themselves, and not with those of their countrymen whom they choose for contractors.

"This *pro forma* contract presents some blanks which should be filled up, and of which the most important relates to the motive force, and consequently to the amount to be paid by the Imperial Commission for the force.

"My previous communications on the subject of the mechanical force necessary to your section having remained thus far without response, I cannot fill up the blanks, and I renew my entreaty to be informed the most promptly what is possible in this respect. This force once fixed as exactly as possible, will indicate the sum to be paid, by multiplying the number of horse-power by six hundred francs. But the sum thus calculated will be the maximum, and subject to proportional reductions, if by dynamometric observations the power actually furnished be less than the amount named as a basis of calculation.

"To aid you in completing the organization of your mechanical force, I hope to be able to place at your disposal some machines, portable or fixed, exhibited by French contractors, but on condition that you inform me as soon as possible what machines you may have need of.

"Finally, (and if you have any objections to make I shall be obliged if you will make them at latest before the 15th instant,) your section will comprise arrangements for the general transmission of force, to the extent of fourteen metres in length, corresponding to double that length of shaft.

"It is desirable, in conformity with the example of Belgium and England, that the United States should agree with the Imperial Commission to furnish the motive force necessary to their section, reserving to themselves to come to an understanding with their own national contractors afterward. Thus, as I have explained to you in my various communications relative to this object, the Imperial Commission thinks that all considerations unite in favor of making this method general; in this case there will be occasion for a contract analogous to the outline of agreement which I send you.

"If, on the contrary, the Commissioner of the United States does not think himself able to agree to this, it will be indispensable for him to advise me immediately, and to indicate the motive force that will be required to enable me to proceed in his place to prepare the necessary mechanical constructions in his section. The French contractors are about to commence the construction in the Champ de Mars of their buildings for furnaces and boilers, passages for steam pipes, &c. A longer delay in deciding for your section will tend to compromise the work that is requisite for it, and the Imperial Commission must decline the responsibility from this time for the consequences which further delay may entail.

"In the expectation of a prompt response to my communication, I pray you, Monsieur le Commissaire, to accept the assurance of my distinguished consideration."

Mr. Beckwith to Mr. Seward.

"PARIS, November 27, 1866.

"SIR: It is my desire and effort to occupy the attention of the Department as little as possible with details, but some of them should be brought to your notice in passing, that they may be understood.

"The regulations and formalities by which the Imperial Commission conduct their work are applicable to all nations alike, and we must conform to them, or we cannot proceed. The more we show a disposition to reconsider what has been done and go back to change it, or propose methods which we may think better, but which are not in accord with their methods, the more we come in conflict and embarrass the work.

"To avoid this result at this late date is of great importance, and in the endeavor to do this I have several times of late been obliged to place myself in apparent opposition to the proposals from New York, even when I should cordially agree with the object, if it were practicable in the way proposed. This pressure arises from particular interests, which might have been more fully accommodated at an earlier period if they had come forward, but which it is now more difficult to satisfy.

"The contract for motive force was kept open, at my request, until it became so embarrassing to the Imperial Commission that they notified me I must close it, or sign a contract which they sent me, agreeing to supply the force myself and commence at once the structures. Being unable to comply with this request or to present a contractor acceptable to the Imperial Commission, I abandoned the attempt, and called on them, on the 13th of July, to provide the requisite force, in conformity with the general regulations, of which I duly notified Mr. Derby and the department.

"Mr. Derby writes on this subject, on the 9th November, 'that there is much feeling, among those interested in machinery, about motive force in our section, and they think we ought to have had our own engine and engineer.'

"To this I replied as follows: 'That is precisely my feeling; I agree with them; and when that contract on fair terms was presented month after month, without takers, and I was persuading the Imperial Commission time after time to keep it open, and still nobody offered, I was disappointed. The result of this delay was that the works went on, and when I was called on finally to close up I was obliged to pay a considerable sum extra to get the power you required, because the preliminary work was too feeble in structure and had to be done over; and, as this was owing to our delay, I was compelled to yield or go without the force. I surrendered this business from necessity, with a feeling of disappointment and chagrin; and I might use a stronger expression, for I fully believed our people would take that contract freely, and relied on it, and suffered for my mistake. Therefore I have no more to say on that subject but this: feelings which are not strong enough to lead to action are of no value; if our machinists feel sufficient interest in it to buy out the contractor, they can do so, and if not, not.'

"Mr. Derby writes again, on the 13th instant, as follows: 'If you will propose to the French contractor for the motive power of the American Section that we will furnish our own power at our own expense, and at the same time allow him to draw his contract money from the Imperial Commission just as if he furnished it according to contract, the money will be supplied by parties here for furnishing this power, as it is considered of the greatest importance, not only by exhibitors but by leading men in this country, that this power should be furnished by an American contractor, and that an American engine and boiler should be used for that purpose. If the French contractor has already constructed buildings for boilers, &c., and put up the shaftings or supports for it, these can be used by the American contractor. If he has not, we will furnish them from this side; *i. e.*, at our expense. As I have heretofore advised you, there is much feeling here upon this subject—which will not be diminished when the Exposition opens to the view of Americans in Paris—of American machinery propelled by a French engine and French engineer.'

"To this I have replied by this day's mail as follows: 'Referring to the remarks of your letter No. 78 relative to motive force, the subject will perhaps be made clearer by restating the conditions. It is incumbent on the Imperial Commission to furnish motive force, and they retain the entire control of the force. They proposed to accept a contractor for our section, presented by us, provided the contractor would accept of their terms, by which he would become responsible to them, receive his pay from them, and be entirely under their control. By that arrangement we would continue to look to the Imperial Commission for force, as if we had not presented the contractor; they would take the risk of the contract, and if the machine broke down or any other accident disabled it, the Imperial Commission would be bound to supply its place to us at their expense, they settling with the contractor. The same condi-

tions exist, whether the contractor be presented by us or not. These are not our terms, but those of the Imperial Commission, and they are applicable to all foreign nations. We were unable to nominate a contractor in time, as you are aware, and the Imperial Commission made a contract with another contractor. We have never had any control of this contract, nor can the Imperial Commission recall it; it is the property of the holder. He may sell it if he can find a buyer, provided always that the other contracting party—the Imperial Commission—will accept the buyer in place of the seller. Therefore any party wishing to make this contract must buy out the holder and agree with the Imperial Commission to accept him in place of the seller, and enter into a new contract in that conformity. With this change we have nothing to do, except to oppose it or promote it, according to our interest, as far as our influence may go. Now, I shall be extremely glad to have an American contractor and engine in place of the one we have; it is what we ought to have, and I am ready to do all I can to effect this change, provided always that the new contract will be equal to our wants. But I cannot propose the canceling of the existing contract, which, if accepted, would leave us at this late date without a positive contract for force; nor would the Imperial Commission listen to such a proposal; neither can I become myself the contractor, which would, in effect, be my position by your proposal. The new contractor must come forward and negotiate for himself; he must agree with the holder on the terms of sale, and till this is done nothing can be done; he must then agree with the Imperial Commission to accept him as a substitute for the other, and enter into the obligations and responsibilities which they require of all contractors. I will help him in this as far as I can, provided always his offer is equal to our wants and compatible with the general interest of our exhibition, which it is incumbent on me to look after. I think it best, therefore, for me not to make the proposal you suggest, and would recommend your contractor not to begin with such a proposal, because it would come to nothing either with the holder or with the Imperial Commission. The holder is a machinist of reputation and wealth, who wishes to exhibit his machine, and cares very little for the pay. I do not think he would listen to a proposal to give up his contract and continue to draw his pay; I think he would refuse it; at the same time, if the case were properly stated, and he were asked to name his terms, he might name terms more moderate than the buyer is ready to offer. These are my impressions, but I cannot undertake this negotiation; it is the business of the new contractor, and I shall be glad if I can help him in it in the way I have suggested, and glad if it succeeds.

“It will be readily seen that I cannot propose the canceling of the existing contract and substitute nothing in its place but a vague understanding that parties who are not yet named will come forward and make another contract. The Imperial Commission would not consent to this, and if they did it would only deprive our exhibition of the certainty

it now has of sufficient force, and leave the common interest to the uncertainties of an incomplete engagement not reduced to the forms of business which secure fulfillment.

"It is for the interest of the exhibition to have the new contract perfected before the old one is relinquished, and it is incumbent on those who are directly interested, and desire to profit by the change, to come forward and complete it in advance.

"I think I should jeopardize the general interest of our exhibitors in consideration of the particular interests of contractors if I acted otherwise, and my object in this communication is to explain this situation.

"The pressure from particular interests at this stage naturally increases, and the numerous letters which I receive direct from parties themselves are now embarrassing.

"I shall endeavor to satisfy each as far as is compatible with the common interest of our exhibition, which should be kept uppermost; but I cannot deviate from that, unless in particular cases, which may be referred to you, you shall think me mistaken and direct me to act otherwise."

PROPOSED EXHIBITION OF COSTUMES AND OF ABORIGINAL RACES.

Mr. Beckwith to Mr. Derby.

"No. 12.]

"PARIS, November 8, 1865.

"DEAR SIR: The annexed publication is from the special committee on costumes, Class 92, and indicates the method adopted in France for perfecting that part of the Exposition.

"The peoples of Western Europe descend from successive invasions of numerous races which settled in various localities, holding comparatively small intercourse with each other previous to the epoch of railways, and preserving, consequently, great variety of dialects, habits, manners, and costumes.

"These characteristics are suggestive, not only of differences of origin, but of the influences which tend to preserve or create the differences in question, such as peculiarities of climate, soil, geographic configuration, occupation, &c., in localities but little removed from each other.

"The difference of origin and the better means of communication in America, the uniformity of institutions, the diffusion of a common literature, the superior intelligence, and the homogeneous character of the nation, tend alike to preclude the preservation or growth of similar local distinctions, while the brief history of the country, from its settlement, embraces too short a period of time for the modifications of character and development of local differences, which it is becoming the fashion to ascribe, with or without reason, to the powerful influence of the elements.

"I doubt if you will be able to make a collection of native costumes that will be very interesting or instructive, either in a historical or an ethnological sense."

Mr. Beckwith to Mr. Seward.

“PARIS, September 19, 1866.

“The project of bringing together at the Exposition groups of aboriginal races from different quarters of the globe may appear at first adapted merely to gratify the curiosity of the multitude.

“But, however legitimate such a wish might be, the project includes a higher object.

“The interesting researches which relate to the natural history of man, it is well known, are now pursued with great zeal, and are pushed back to periods long anterior to the commencement of the historic period.

“The elements of these researches include careful studies of the physiology of races, of the habits and manners of existing races, of languages living and dead, and of fossil remains.

“The persons most occupied with these inquiries are seldom men of fortune, and rarely travelers, but they are usually men of small means, devoted to special pursuits, which they follow with untiring zeal, depending, to a great extent, for the material facts on which their generalizations are based, upon the hasty and often superficial observations of unscientific travelers and upon accidental discoveries.

“Bringing together specimens of races, as proposed, will present a rare opportunity for the linguists, the sinologues, the ethnologues, the physiologists, &c., to perfect and verify their theories—to correct them or to originate new ones—an opportunity which most of them have never enjoyed, nor could in any other way.

“The American Indians, as regards their physical qualities, their moral and intellectual qualities, their present condition, their obscure past and more obscure future, are unquestionably among the most interesting of the early races of man.

“Their gradual diminution is considered by some as the evidence and effect of that law which they contend governs the animal kingdom, in conformity with which the lower precedes the higher, and is in turn exterminated by it. From this it is argued by one party that civilization spreads only by extermination, while their opponents maintain that all races are capable of civilization and preservation, and that extermination results only from the ignorance and consequent enmity of races.

“But, whatever the causes of decay, the fact is obvious that the aboriginal inhabitants of America are diminishing, and it may be doubted whether it is in human power to preserve or even to prolong their existence.

“The journals from Washington just received contain the legislation of Congress, Document No. 157, relating to certain tribes of Indians.

“The pains taken to introduce among them the arts and habits of civilization is remarkable. Oxen, horses, plows, hoes, axes, log-chains, saw-mills, grindstones, spades, farming implements of all sorts, and domestic utensils, are not only provided for them, but white persons of

both sexes are sent among them to teach them the uses of these things and the habits of a higher life.

"The consideration and care of the government and people of the United States for these ancient races are beneficent and even parental. But this fact is little known in the world, and we are frequently reproached with pursuing a cold and cruel policy toward the Indians.

"A better understanding of this subject would relieve us from these reproaches and justify the policy of the government and nation, by showing that it is eminently humane and wise, and really up to the level of the highest civilization of the age.

"The history of this policy and its effects, carefully studied, would also throw great light on the ethnological question to which I have alluded, touching the destiny of races as affected by human laws and by laws which are higher than those of human origin.

"If I could succeed in adding a group of Indians to the assembly of races which it is hoped will be brought together at the Exposition, I think it might give rise to inquiries and researches which, in a scientific sense, would be interesting and useful, and in a political sense would tend to diffuse a knowledge of facts in every way creditable to the government and the country; and I am not without hope that you may think the subject of sufficient interest to bring it again to the attention of the Secretary of the Interior."

EXHIBITION OF HEAVY CANNON AND MUNITIONS OF WAR.

The two letters following, from Mr. Beckwith to Mr. Seward, explain the absence of an exhibition by the government of materials of war in the United States Section :

Mr. Beckwith to Mr. Seward.

"PARIS, April 19, 1866.

"SIR: The fabrication of heavy cannon and materials of war in general being, to a large extent, the work of government, the Imperial Commission omitted articles of this kind in forming their catalogues for the Exposition.

"But the nations most advanced in products of this description, England, Prussia, Belgium, &c., have expressed a desire to exhibit them, and the Imperial Commission has resolved to add them to the catalogue.

"The French government will, therefore, form for itself in the Park a separate exhibition, comprising all descriptions of materials of war, and other similar exhibitions will be formed by other governments or manufacturers, or by both.

"An exhibition of this kind by the United States, through the co-operation of the Navy and War Departments and manufacturers, might be made with great effect, and a place could be provided for it in the Park, under the same roof where I propose to supplement Group VI, alluded to in my previous letters.

"The additional expense this would involve would not be large on this side, and the cost of the proposed building could, I think, be kept within the sum I have named for that purpose, which Congress appears disposed to provide.

"A branch from the railway which encircles Paris will be laid to connect with the Park, which will facilitate the transport of heavy objects, and suitable machinery for handling and placing them will be provided.

"A collection of war materials would add great attractions to our exhibition, and undoubtedly be highly appreciated.

"I have requested Mr. Derby to apply to you for information, and I beg your favorable consideration of the subject."

Mr. Beckwith to Mr. Seward.

"PARIS, May 31, 1866.

"SIR: I beg to acknowledge receipt of your letter of the 11th instant, referring to mine of the 19th April, on the subject of an exhibition of materials of war.

"Your letter includes a copy of the observations of the Secretary of the Navy on the subject, in which he remarks that he is 'aware of no benefit that would accrue to our government or country from an exhibition of specimens of our ordnance in Paris,' from which I infer that I must have failed to present the subject in the light which I intended.

"It has been the occasional custom of the United States government, and it is the constant custom of European governments, to dispatch commissioners to different countries to study and report upon the progress and condition of the materials of war.

"These inquiries are attended with great expense, on account of the extended journey they require. The inquiries are in themselves difficult and the results imperfect, owing to the objections and obstacles often thrown in the way of them, and the reports are defective, which result from such hasty and imperfect studies without the means of comparison.

"The Imperial Commission omitted this subject in its original programme, but England, Prussia, and Belgium, countries among the most advanced in products of this kind, thought the occasion should not be neglected for bringing together collections of the most improved and advanced materials of war from all countries, which would present at once the best possible opportunity for the study and comparison of them without obstacles.

"At their suggestion the Imperial Commission reconsidered the subject, and resolved to provide for such an exhibition.

"The French government concurred in this view, and the result will be national exhibitions of the best war materials of the countries above named, in which each will exhibit not for its own especial benefit but for the mutual common benefit, which accords with the spirit and meaning of the entire Exposition of 1867.

"I feel that I should apologize for intruding the subject a second time on your attention, but I am not without hope that the Secretary of the Navy and the Secretary of War may be willing to reconsider the matter in the light now presented.

"If those departments could be induced to contribute to the Exposition, and send a competent officer to study and report upon it, (of whom there must be many who would accept the commission without expense,) they could not fail, I think, to obtain more complete and valuable information than they could get in any other way of the quality and condition of the materials of war of every kind in all countries where great attention and skill are applied to the production of them."

SOCIETY OF INTERNATIONAL TRAVEL.

The following letter from Commissioner Beekwith to Mr. Derby, dated Paris, November 8, 1865, explains the organization and objects of "The Imperial Society of International Travel:"

"Many persons engaged in agriculture, manufactures, and various industries will desire to visit the Exposition for the purpose of studying it in connection with their particular interests. It is likely also that many of these persons whose studies would produce practical and useful results may not be able to afford the whole expense which it involves. The annexed publication emanates from an association collateral to the Imperial Commission, founded on a capital of \$100,000, for the purpose of aiding the class of persons in question to visit the Exposition by means of contracts in their favor at reduced prices, with railways, steam navigation companies, hotel-keepers, &c. The articles of association and method of proposed operation are described in the annexed pamphlet.

"I send it merely as a suggestion, which some ingenious and well-disposed person may embrace, to originate a similar organization if thought useful and requisite on our side."

The object of the society is :

1. To make arrangements with railway companies, steamship companies, and others, in regard to running trains and making trips at reduced rates, from the principal towns of France, Algiers, and from foreign countries, for the express purpose of transporting the working classes, farmers, and mechanics, to the Universal Exposition of 1867, at Paris.

2. To enable all these persons to reach, in a safe and easy manner, the great manufacturing and agricultural centers.

3. To furnish them with all kinds of information, through the agency of competent persons, attached to the special service of the administration.

4. To provide for them capable interpreters.

5. To direct them to vacant apartments, and, in certain cases, to supply board and lodging for travelers at Paris, or in other places.

The society will base all its operations upon a moderate tariff, within the reach of all.

It will make arrangements with railway companies, so that travelers of all classes coming by the ordinary trains can procure, at starting, a certificate allowing them full possession of all advantages offered by the society.

The directors of the society, according to the wish expressed in article five of the regulations of the Imperial Commission for the Universal Exposition of 1867, at Paris, will provide for the running of third-class trains, specially intended for farmers, overseers, workmen, and mechanics. They will place themselves, as soon as possible, in communication with prefects, sub-prefects, mayors, heads of institutions, presidents of chambers of commerce, corporations, &c., and with the ministers of foreign powers, for the purpose of soliciting their valuable assistance and advice in regard to the best method of making known the conditions of this way of traveling, and the manner of receiving the sum to be paid, by means of small weekly installments. For this purpose, the society will establish in each department an agency, having power to appoint sub-agents in all towns and villages, who will be provided with books containing small printed receipts to be given in exchange for each payment of fifty centimes or one franc.

Upon the first page of this book will be printed an extract from the regulations, as follows:

A.—These books are not transferable unless notice has been previously given to the agent of the administration.

B.—The sums collected in each department will be paid in, every week, to the receiver of finances, or to some person of equal responsibility.

C.—Each holder of a book, by giving notice ten days in advance to the departmental agent, will be reimbursed for all sums he may have expended, except the premium of two francs, payable by each book, and a reserve of three per cent. intended to cover the expenses of printing and of commission to the agents and sub-agents.

D.—Members of workmen's societies, or even of workshops, can, if they wish, form companies and make direct contracts with the society for their journey and sojourn in Paris.

The receipts will be distributed through all the towns and villages, and it will be easy at any time for any person wishing to visit Paris in 1867 to purchase one or more of these receipts, according to the expense of his ticket and of his sojourn in Paris, if he desires it.

This arrangement will give an opportunity to persons interesting themselves in social and universal progress of purchasing these receipts in any place, and of disposing of them where and when they wish.

At the railway terminus in Paris persons in the society's employ will be constantly stationed to furnish gratuitously any information desired by travelers of all classes. These persons will be provided every day with lists of apartments, unengaged chambers in hotels, furnished houses, and all other particulars.

In short, the persons in employ of the society should endeavor to be

useful in every way to the stranger, and to make his sojourn in the capital as agreeable as possible.

The office of the society will be open day and night for the reception of travelers.

A hospital will be prepared, under the direction of a physician, with an apartment for ladies.

COMPLETION AND OPENING OF THE EXPOSITION.

Mr. Beckwith to Mr. Seward.

“PARIS, *January 21, 1867.*

“SIR: The dates fixed by the imperial regulations for placing the products which are to form the Exposition are as follows :

“The structures in the Palace and the Park to be completed by the 1st of December; the show-cases, tables, and fixtures of all kinds to be placed before the 15th January; the reception and unpacking of products to commence on the 15th January, and to terminate on the 10th March, after which no more will be received. The products to be arranged for exhibition between the 11th and 28th March; the 29th and 30th are allowed for cleaning and sweeping, and a general inspection on the 31st will take place preparatory to the opening on the 1st April.

“The latest notice on this subject which I have received from the Imperial Commission is dated the 12th instant, reminding me that the above regulations will be adhered to; that the Emperor will inspect the Exposition between the 28th and 31st March; and that the opening will take place on the 1st April, without fail.

“The dates for finishing the structures which we had to make, and for commencing the introduction of products, (15th instant,) being past, I now propose to report the situation of our work.

“PALACE.—I have completed the flooring of Groups II, III, IV, V, in the Palace, and laid out upon them the plans in conformity with which the installations (fixtures) are to be made and placed.

“In Group VI one part of the floor is being laid, and will soon be finished; and in the other part of the same group the foundations in masonry are in progress for machines, of which plans of foundations have been sent me, upon which I could construct in advance; but all the necessary plans have not yet reached me. The concrete in Groups I and VII, laid by the Imperial Commission, will be sufficient in those groups, and answer in place of wood floors.

“PARK.—The annex in the Park will be about three hundred feet in length, and nearly thirty-four feet in breadth. The frame of this building is erected, and the covering commenced; this, by contract, should have been completed on the 15th January, but the tempestuous weather which set in on the 2d January, and severity of the cold which still continues, have retarded this work; the material for the covering and the flooring is prepared and ready to be laid, and a very short period of milder weather will enable me to complete this building.

"With respect to the buildings to be erected in the Park—two houses, one school-house, and a bakery, to be sent from the United States—the information sent me is not such as to enable me to prepare the ground for them, and there is likely to be some delay in consequence after their arrival.

"The contracts for the installations (tables, show-cases, shelves, frames, partitions, and other fixtures) in Groups II, III, IV, V, and VI, require the completion and delivery of this work by the 31st instant; but I have been obliged to extend the time for a part of it to the 9th February.

"The preparation of the walls in Group I, for the reception of pictures, is nearly completed; and I rely upon being in a condition to commence the reception of products in the Palace from the 25th instant to the 30th instant, and to commence the unpacking and placing throughout the Palace and annex by the 10th February.

"Most of my contracts for the more expensive work have been made in Belgium, at lower prices than I could obtain in Paris, and where circumstances admit of more reliance on punctuality.

"I ought not to omit to state in this connection that the backward and still incomplete condition of the catalogues has compelled me to undertake and carry on the expensive part of the work in question under great disadvantages.

"Taking the preliminary catalogues and allotments which I transmitted to the department on the 24th October as a basis, I have been obliged to make the contracts for the construction of the fixtures in that conformity, as being likely to be pretty nearly what would prove to be in the end necessary.

"But as there have been many changes in those lists of products and allotments of space, and these changes are still going on, it is not unlikely that when the products and the fixtures come together they will not in all cases fit each other.

"I am liable to find a space for which I have prepared an expensive show-case occupied by a stove, or another space for which I have prepared a table, appropriated to products requiring a different method of installation for exhibition, &c.

"This contingency results inevitably from carrying on simultaneously two distinct works, one of which (the catalogues) should precede the other, by which method alone the fixtures could be made in advance to fit the products when they arrive.

"The incongruity between the products and the installations prepared for them, to whatever extent it may be found to exist, will cause further delays, probably considerable waste or expenditure of money that might have been avoided, and can hardly fail to render it impossible to place and expose the products in all cases in the way and manner desired by the exhibitor, and intended. Some changes and disappointments from this source may become unavoidable, and give rise to dissatisfaction and complaints from exhibitors thus disturbed, and who perceive no cause for it but what appears to them very bad management.

"But it is obvious that if the construction of the fixtures had been delayed for the completion of the catalogues, (not yet completed,) such delay would have been equivalent to an abandonment of the Exposition, and it will require unceasing efforts, as it is to bring the products and the fixtures together, however incongruous their condition, in time to prevent their exclusion from the Exposition.

* * * * *

"I have not yet been able to report any of the catalogues to the Imperial Commission. Their urgency increases daily and their hopes have been fed by the continued advices above quoted, each of which in succession seemed to indicate that but little remained to do, and that the final report might be fairly expected by the following mail.

"But the result is, I regret to say, that the Imperial Commission has at length become impatient. They have received my representations of late with apparently diminished confidence, and have now given me final notice that if my manuscript catalogues are not delivered to them by the 25th instant for publication, the Exposition will open on the 1st of April without them.

"I still hope to avoid this result; it would place our exhibitors at great disadvantage, and I look with increasing anxiety for the final reports from the agency at New York."

THE OPENING OF THE EXPOSITION.

Mr. Beckwith to Mr. Seward.

"PARIS, April 2, 1867.

"SIR: The Exposition was opened yesterday, the 1st of April, in conformity with the regulations published by the Imperial Commission.

"Work in the building and the Park was suspended for the occasion, the doors were opened to the public, the attendance was numerous, and the weather was brilliant.

"The diplomatic bodies and the other invited guests were assembled in the interior gallery appropriated to the fine arts. The national commissions were stationed, each in its own section, on the elevated platform which runs through the great gallery of machinery comprising the larger circuit of the building.

"His Majesty the Emperor and the Empress arrived at 2 o'clock p. m., accompanied by the chief officers of state, several ladies of the court, the Imperial Commissions, and a numerous suite of functionaries connected both with civil departments and with the Exposition.

"The imperial cortege on arrival ascended the great platform or promenade, and made the entire circuit of the building, the various national commissions being presented in succession by the minister of state, vice-president of the Exposition, to the Emperor and the Empress as the cortege arrived at the different sections.

"The national commissions then repaired to their respective sections

in the gallery of fine arts and joined the invited guests. The imperial cortege descended from the platform and made the tour of the gallery of fine arts, their Majesties saluting the audience as they passed, receiving in return their cordial greeting.

"The imperial cortege then retired by the great door opposite the one by which they had entered, the Exposition was declared to be open, the barriers and guards removed, and the avenues left free to the circulation of the multitude."

CONDITION OF THE UNITED STATES SECTION AT THE OPENING.

Mr. Beckwith to Mr. Seward.

"PARIS, April 3, 1867.

"SIR: I beg to state briefly that at the opening of the Exposition the structures in our section were nearly completed and the placing of the products about half finished. Many of them are still on the road between this and Havre, which has been greatly clogged by accumulation beyond the means of rapid transport.

"Fully a month will be required to complete the work, and this observation is applicable to every national section of importance, including the French section.

"Very little machinery was ready in any section for movement, though a few machines in some sections were put in motion for effect.

"Three or four of our machines, under charge of Mr. Pickering, were belted and shafted ready for work, but the Imperial Commission were not ready to supply us with steam or water, and the machines did not run.

"Each nationality has been urgent in pushing forward its work for the opening, in which anxiety I participated, and increased the number of workmen, employing one set during the day and another for the night till five in the morning for a short period.

"The natural anxiety in my section was sufficient, and the movement was overdone by the severe pressure of the Imperial Commission. This caused an accumulation and a clog which retarded instead of hastening the work.

"The contracts for transport, cartage, carpenters' work, masonry, decoration, &c., all broke down, new contracts were made, wages were doubled, the men became masters, and with this accumulation of force and expense the work went slower every day.

"With the business in this train many of our exhibitors arrived, anxious to find their products and get them in place; but destitute of any knowledge of the situation, ignorant of the regulations, and to a great extent of the language, they have met with difficulties and delays they did not look for, and have shown some dissatisfaction.

"But time and patience will remedy this, reasonable grounds of complaint—if such exist—will be removed, and imaginary grounds will vanish with a better knowledge of the circumstances.

"The precipitation and disorder with which the exhibitors hurried off their products from the United States at the latest moment, their general, almost uniform neglect to furnish inventories of the contents of packages, and the arrival of every vessel but one in advance of the bill of lading and shipping documents such as they were, precipitated the business upon me in a condition which can only be appreciated by those who are familiar with the movements of commerce.

"For the most part I have had no means of furnishing the customs with the requisite inventories, nor of knowing the contents of packages, till they were opened and the inventories made, and many of them are not yet opened.

"The shipping lists have proved to be very inaccurate—several packages in them have not appeared, while many others not in them, nearly a hundred in all, have been delivered. Under these circumstances it is impossible to hold vessels to any strict account for delivery.

"The impossibility of making a correct catalogue under these circumstances is evident. I have made the best that was possible and it appears in the first edition of the imperial catalogue, but it is extremely imperfect.

"I have now in press a catalogue together with the statistics to accompany it; the catalogue is in three languages and the statistics in French. This will be more accurate, and will be out, I trust, by the 15th instant. But even this cannot be perfected before the second or third edition.

"The houses from Chicago have been a great embarrassment. The material for one of them was only got into the Park yesterday.

"The materials for the other arrived some weeks since, but instead of a house in sections ready to put up, it was lumber from the mills of which to build a house.

"Mr. Clark, the carpenter who came over to build the house, concluded that he could not do it either with French tools or French workmen. I sent him to England to procure carpenters and tools; he brought over fifteen workmen, and they are working on the first house, at heavy wages, and doing little, having evidently embraced the opportunity of coming to the Exposition rather than to work.

"I should not have felt justified in this course, but for the recent appropriation in Congress, which was telegraphed to me as intended for this purpose, and for the importance apparently attached to this exhibit by those who were interested in sending it, which seemed to leave me no choice, though so large an expenditure for this purpose is not in accordance with my own judgment.

"The pressure of work at this moment will be accepted as my apology, I hope, for so brief a report on the state of the work at the opening."

II.

THE PROGRESS AND CLOSE OF THE EXPOSITION.

SCIENTIFIC COMMISSION; THE IMPORTANCE OF OBTAINING THE ASSISTANCE OF PROFESSIONAL AND SCIENTIFIC PERSONS TO STUDY AND REPORT UPON THE EXPOSITION—REPORTS UPON THE PROGRESS OF SCIENCE AND LETTERS IN FRANCE—THE ORGANIZATION AND DUTIES OF A SCIENTIFIC COMMISSION—COMMISSION UPON WEIGHTS, MEASURES, AND COINS—INTERNATIONAL EXHIBITION OF MEASURES, WEIGHTS, AND COINS—PREPARATION OF THE CATALOGUE OF THE UNITED STATES SECTION AND PUBLICATION OF STATISTICS—FIELD TRIALS OF AGRICULTURAL MACHINES AT BILLANCOURT—INTERNATIONAL JURIES, AND THEIR ORGANIZATION—NEW ORDER OF AWARDS—APPORTIONMENT OF JURORS TO THE UNITED STATES—WORK OF CLASS JURIES—THE DISTRIBUTION OF PRIZES—HONORARY DISTINCTIONS—EXHIBITION OF THE MEDALS AND DIPLOMAS—PRIZES FOR REAPING AND MOWING MACHINES—CONDITION OF THE INDUSTRIAL ARTS INDICATED BY THE AWARDS—COMMISSION OF THE UNITED STATES—REGULATIONS ISSUED BY THE SECRETARY OF STATE—MEETINGS AND PROCEEDINGS OF THE COMMISSION—CLOSE OF THE EXPOSITION AND THE DELIVERY OF PRODUCTS—MINERALS DONATED TO VARIOUS INSTITUTIONS, AND LETTERS RECEIVED IN REPLY—CEREALS COLLECTED BY EXCHANGE.

SCIENTIFIC COMMISSION.

The importance of obtaining the assistance of professional and scientific persons to study the exhibition and aid in preparing suitable reports upon it, was pointed out by Mr. Beckwith in his letter of suggestions to Mr. Bigelow, April 3, 1865, printed upon p. 15. The department was also addressed by Mr. Bigelow in his dispatch from the United States legation at Paris, September 21, 1865, as follows :

"The circular, of which No. 1 is a translation, has been issued by the Commissioners of the Universal Exposition of 1867. It provides for the creation of an international scientific commission, whose duty it shall be to note the recent advances made in the sciences and arts, to contribute what they can to diffuse the knowledge of useful discoveries, to encourage international reforms, and, lastly, to point out, in special publications, the useful results to be derived from the Exposition.

"I invite your special attention to the provisions of this circular, and take the liberty of suggesting that our government can in no way turn this Exposition to better account than by sending a few of its cleverest men of science to make part of this commission. I say its cleverest, because it is not worth while to send men who would see nothing, and therefore describe nothing, which would not be seen, and as well or better described, by the French and other foreign exhibitors.

"The Exposition will be transitory, but the accounts that will be written about it have a chance of enduring. Europe will assign this duty to her choicest men. There is glory to be won in a successful competition with them. I think the opportunity should not be neglected."

The following is the translation of the circular referred to. Original was issued by the Imperial Commission, and signed by Rouher, the minister of state and vice-president of the Imperial Commission, September 20, 1865 :

ORDER ESTABLISHING THE SCIENTIFIC COMMISSION.

"In accordance with the general regulations adopted by the Imperial Commission, 7th July, 1865, and approved by an imperial decree of the date of 12th July, 1865, which provides for the institution of a series of studies and experiments, under the direction of a scientific commission, and for the publication of results of general interest attained by these labors, (Article 63,) it is ordered :

"ARTICLE 1. There is established, in connection with the Imperial Commission, an international scientific commission, having for its object: 1st. To indicate the best means of representing, at the Exposition of 1867, the recent advances made in the sciences, in the liberal and industrial arts. 2d. To contribute to the extension of the employment of useful discoveries, and to encourage reforms of international interest, such as the adoption of uniform weights and measures, identical scientific unities, &c. 3d. To point out in special publications the results of general utility to be derived from the Exposition, and to undertake, if it be necessary, the researches required for their accomplishment.

"ARTICLE 2. The Scientific Commission is composed of Frenchmen, appointed directly by the Imperial Commission, and of foreigners appointed upon the nomination of their respective countries. These appointments will be made successively by special orders.

"ARTICLE 3. Scientific organizations, and, in general, persons interested in the progress of the sciences and the arts, are invited to submit to the Imperial Commission their opinions in regard to the researches to be undertaken, and the questions to be considered.

"ARTICLE 4. The members of the Scientific Commission will not be expected to hold stated meetings. They can labor separately upon the matters which are given them to treat; and can send, in their own names, the fruits of their labor to the Imperial Commission. It will also be permitted to them to meet with their colleagues of all countries."

"ARTICLE 5. The memoranda and reports will be submitted before the 1st July, 1867, to the Imperial Commission, and published, if necessary, under its direction. The whole will form the collection of the labors of the Scientific Commission.

"ARTICLE 6. The councillor of state, Commissioner General, is charged with the execution of these orders."

REPORTS UPON THE PROGRESS OF SCIENCE AND LETTERS IN FRANCE.

The following is a translation of a letter addressed, December 1, 1865, by M. Duruy, the minister of public instruction, to M. Le Play, the coun-

cillor of state and Commissioner General for the Universal Exhibition of 1867:

"I have the honor to inform you that, in virtue of the approval given by the Emperor to my report of the 8th of November, the minister of public instruction will directly participate in the Universal Exposition of 1867, by producing there the works of diverse character which are comprised in the mission with which he is charged.

"He will at first present the best manner arising from a substantial rule which serves for the instruction of children and of adults in the primary public schools, and in order that we may be able to establish its value, he will make fully known also the results of the tuition. In addition, he will lay down a series of reports which will show, in the first part, the discoveries of scientific theories, from which emanate every industrial perfection, and on the other part, the moral ameliorations and administrative or economical reforms due to the influence of ideas that literature diffuses, that history verifies in the past, and of which political sciences provoke the application in the present.

"It is in the Classes 89 and 90 that the objects might be placed, which, by appealing to the eye, can allow it to appreciate the state of education.

"Among these objects will be found some works executed by the pupils themselves, such as drawings, modelings, &c., which it is usual to produce at every exposition, and of which the most meritorious have always gained some credit to the schools who have sent them.

"The most severe precautions will be taken by my administration in the public schools, in order that these objects may represent, with a scrupulous fidelity, the real labor of the pupils, without the assistance of teachers, and consequently what they will be truly in a condition to do upon the day when they will be left to themselves. It will be a true standard of primary education.

"The reports on the principal works produced by the French mind for the past twenty years in their intellectual order, and in their social order, will find, therefore, their natural place in the Class 90, which makes a part of Group X, where the Imperial Commission has united that which concerns the material and moral progress of populations.

"The reports will be made known as follows:

"1. The progress accomplished in France by the mathematical, physical, and natural sciences.

"2. The progress accomplished by the moral and political sciences in their applications to the wants of society.

"The character of French letters that they may study, at least with a view to their style or as a task of literary criticism, and in their effects upon the general education of the country.

"Some men, who are the light and honor of the Senate, of the Council of State, of the Institute, and of high education, have been willing to undertake to draw up these reports. Before speaking in the name of

French science, in presence of the wise men of the world, in an inclosure where every one will judge each other, they will study without troubling the serenity of the impartial historian; and in the same way, with a respect for their own labor, they will lay before their equals a testimony devoid of all personal interest.

"The ancients selected the sage to seek the beautiful, the true, and the perfect. The reports will tell whether the ancient formula is that of the modern sage, and whether French letters, faithful to the great traditions of Corneille and of Molière, seeking always the beautiful in order to diffuse the good, are still a school of manners, as the positive sciences and the moral sciences are a school of truth and justice.

"Before indicating the classifications of the matter comprised in the three divisions mentioned before, I believe it, Monsieur the Commissioner General, useful to communicate to you some explanations relative to the meaning and object of this work. It is of consequence to remark at first, that he is not to draw up at first an encyclopedial resumé of human knowledge. Proceeding in that way he would miss the mark by overshooting it. The interval which separates us from 1867 is not sufficient for the calculations of all the intellectual riches of humanity. It is already a sufficiently heavy task to measure their increase from the opening of the period which the contemporaneous generation completes by its labors; of that time even they will gather only the considerable facts and results well established. It is not the object in effect to write a complete history of each branch of human knowledge for twenty years. The vain efforts, the abortive experiments, the hypotheses not confirmed—all this scientific dross, which learning collects with curiosity, ought to be placed aside with the facts which may not have a useful character or a general interest.

"We do not purpose to burden ourselves with making for foreign countries a report of the things I have just indicated, though they come within the limit of time prescribed. We will not be able, doubtlessly, in speaking of our progress, to abstain from touching upon that of neighboring nations.

"A joint responsibility closely unites to-day the scientific labors and moral preoccupations of the different nations. Sometimes the same idea spontaneously originates in several countries at once; sometimes an invention found on one side of the frontier has carried all the fruits which grace an accomplished perfection to the other side. Elsewhere, several peoples following, perhaps, our example, it is necessary to leave them the honor of pronouncing for themselves an authoritative and impartial judgment. France, in the reports which she undertakes, proposes exclusively to be occupied with herself, saving the exceptions which will be indispensable to place in the work a perspicuous and necessary justice; the minister of public instruction using the liberty left by the liberal programme of the Imperial Commission to all those who will wish, like herself, to exhibit in Class 90; and the classification

which it presents ought to be considered as a simple memorandum, of which each will make such use as will be convenient to him.

"The programme of the subject to be treated in the report in question is determined principally in the following manner :

"1. PROGRESS ACCOMPLISHED BY THE MATHEMATICAL, PHYSICAL, AND NATURAL SCIENCES.—Geometry, analysis, mechanics, astronomy, geodesy. Physics, chemistry. Geology and paleontology, botany, zoology, anthropology, general physiology, medicine and surgery, hygiene, rural economy, and the veterinary art.

"2. PROGRESS ACCOMPLISHED BY THE MORAL AND POLITICAL SCIENCES IN THEIR AGREEMENT WITH THE WANTS OF SOCIETY.—Public right, administrative right, legislation—civil and penal, political economy, rights of nations.

"3. CHARACTER AND TENDENCY OF FRENCH LETTERS.—Literature—poetry, drama—philosophic doctrines, historical works, archæological discoveries.

"Around this collection of reports, and as an appendix in connection therewith, will be arranged some objects chosen for the purpose of indicating the most interesting results of scientific missions and archæological researches, accomplished in the same period under the auspices of the administration of public instruction.

"Accept, Mr. Commissioner General, the assurance of my most distinguished consideration."

Mr. Beckwith to Mr. Seward.

"PARIS, *December 14, 1865.*

"SIR: * * * I embrace this opportunity to allude to the subject of a scientific commission, for the purpose of studying and reporting upon the Exposition.

"The printed document hereto annexed, issued by the Imperial Commission, contains a decree forming a French scientific commission, and gives general directions for its guidance.

"The Scientific Commission is, first, to point out to the Imperial Commission itself the best means of exhibiting the progress recently made in the sciences and arts; secondly, to co-operate in propagating the adoption of useful discoveries and in promoting international reforms, such as the adoption of a uniform system of weights and measures; and thirdly, to indicate the useful results in general to be drawn from the Exposition, and to undertake, if there is occasion, the researches or experiments requisite to complete those useful results. Scientific bodies, and persons in general who interest themselves in the progress of sciences and arts, are invited also to express their views to the Imperial Commission on the researches which should be undertaken and the questions which should be examined by the Scientific Commission.

"The first part of the labor of the Scientific Commission, therefore,

precedes the opening of the Exposition, and the results of it should reappear in the Exposition itself; the second part may commence at any time, and does not appear to be necessarily connected with the Exposition, but the third part relates more especially to the Exposition; and the reports of the commission, collective or individual, embodying the fruits of their researches, should be sent in to the Imperial Commission by the first of July, 1867, three months before the close of the Exposition, that they may be published.

"The members of the commission are Frenchmen, but foreigners may be added to it upon their nomination by the foreign commissioners, and acceptance by the Imperial Commission. And the members of the commission may unite in their labors and reports, or work separately, and make separate reports, if they prefer it.

"I do not perceive that any particular advantage would result from the addition of foreigners to this commission, as their reports are to be made to the Imperial Commission; but foreign scientific commissioners might perhaps find it desirable at a later period to have one or more of their members on the French commission, as a channel of convenient mutual intercourse.

"In forming a scientific commission for the United States, and giving them instructions, the government will probably leave much to the judgment of the commission itself in choosing subjects of particular inquiry; but the best results would probably be attained by limiting the range of inquiry, and making the study of fewer subjects more complete.

"Among the subjects to which attention might be particularly directed with advantage, I venture to suggest the following:

"1. A comparison of the most useful American products with similar European products, indicating the qualities and differences of each, whether of superiority or inferiority, pointing out in what these differences consist, and the causes of them.

"2. The methods and processes by which these useful products and their various qualities are produced.

"The design of the Exposition is not limited to the display of products, but a prominent feature of its organization is the attempt to exhibit or disclose as far as possible methods and processes.

"Researches in this direction, which commence in the Exposition, must, in many instances, extend beyond those limits, and will be subject to the facilities for inquiry, greater or less, which may be afforded outside of the Exposition. But the utility of such researches cannot, I think, be doubted.

"Why is gas for lighting streets, houses, &c., so much dearer in America than in France?

"The investigation of this subject would show, I think, that there is no great difference in the average cost of raw material in both countries; that apparatuses are as good in one as in the other; and that the differ-

ence in the price of manual labor is but a small element of the cost of gas in either case. But the methods adopted in France for utilizing secondary products, resulting from first processes, appear to have introduced economies which make gas in France cheaper than in America, and that these economies are applicable in America as well as in France.

"There will be in the Exposition specimens of rails composed of iron and Bessemer iron or steel. An inquiry into the method of making these rails would probably disclose several useful economies in the processes; one of which results from laying an upper surface of steel on a body of inferior cheap iron, which combination gives at once solidity, weight, strength, and hardness of surface, producing a superior rail at a cost which admits of its introduction and use as an economy.

"On a recent visit to some of the great foundries in the north of France, I was informed that they were occupied with considerable orders for England, which orders they owed to the superior quality of their iron, the excellence of mechanical work, and moderate cost; and I was surprised that such results could be attained in localities the most unpromising. Nearly all the raw material was brought from great distances, at great expense. Coal from England, Belgium, and distant mines in France; iron ores from Spain, England, Belgium, and several French mines in different localities. I was informed, and investigation would probably prove, that under these great disadvantages, which are more than the equivalent to cheapness of manual labor, good results are attributable, first, to the thoroughly scientific and careful analysis and mixtures of ores, by which superior metal is produced; second, to the excellent mechanical education of many of the workmen; and third, to the economies introduced for utilizing secondary products of first processes, which secondary products are usually thrown away.

"It is observable that the genius of every country adapts itself to local circumstances, and takes its greatest development in the direction of its greatest wants.

"In America, where raw materials are abundant and cheap and manual labor is dear, mechanics and inventors and men of science and genius turn their attention with great success to the production of 'labor-saving' machines and methods, but exhibit at the same time comparative indifference or wastefulness in regard to raw materials.

"In Europe, where manual labor is cheap and materials are dear, the attention of the same leading class of minds is bent in the direction of economies in everything which relates to raw material, and in constant and successful efforts to utilize all secondary products, and in the steady improvement and perfection of processes by scientific means.

"Guided by those conditions, each country makes its own progress in its own way; consequently there is something to give as well as to receive on all sides, and a universal exhibition should promote these exchanges.

"If it be true, in a general sense, that the agricultural, manufacturing, and industrial arts in America are, on the average, as fully developed as they were a few years since in Europe, it is equally true that Europe has advanced, and that the relative positions are not changed; and the proof and consequence of this is, that America continues to supply the raw materials and receive the manufactured products.

"This exchange is profitable to both sides; but as long as the skilled labor of one man exchanges for the unskilled labor of two men, the best of the bargain will be against us.

"The glory or vanity which each nation may derive or display in exhibiting its products will result in nothing valuable if not united with the serious studies of competent men. And however large the field of investigation which the government may prescribe to the commission, I hope their particular attention may be directed to the investigation of methods and processes, at once the most difficult and the most useful of researches."

Professor Joy to Mr. Derby.

"COLUMBIA COLLEGE, New York, December 6, 1865.

"DEAR SIR: In my letter of the 4th instant I spoke of the importance of the appointment by government of a scientific commission to report upon the Exposition of 1867, and I have since observed that Mr. Beckwith makes the same suggestion in his communication of April 3, 1865. I am glad, therefore, that the idea is likely to take root and come to proper development. 'The appointment of professional and scientific persons to study and aid in the preparation of a suitable report of the Exposition, to be subsequently published,' ought to be made as soon as Congress can act upon the matter.

"The scientific committee will need much time for the consultation of the reports of previous exhibitions. They will desire to carry on extensive private correspondence, first, in this country, for the purpose of obtaining the most recent information upon matters relating to the numerous subjects likely to be presented to them for study; second, with foreign scientific and practical men in order to learn the best sources of information. Without great previous study no person could prepare a clear and luminous report of any portion of the Exposition which would be of practical value. A report must not be a catalogue; it must sketch in a few words the history of the department under consideration, state its growth, point out its success, and give statistics and results in a way to enable any one, after reading the book, to invest money in new enterprises without the loss attendant upon a long series of experiments.

"These reports, in able hands, would become text-books for all branches of industry, and would tend to develop our resources as much as any papers Congress has as yet published.

"All parts of the country are equally interested in the publication

and extensive circulation of such documents, and the wider this kind of knowledge is disseminated the better for the country.

“Let there be ten members of the scientific committee, corresponding to the ten groups of the Exposition, with power to appoint assistants where the amount of material is too great to be fully studied by one mind, viz: Committees on—

“1. Works of art.

“2. Materials and their applications in the liberal arts.

“3. Furniture and other objects used in dwellings.

“4. Garments, tissues for clothing, and other articles of wearing apparel.

“5. Products, wrought or unwrought, of extractive industries.

“6. Instruments and processes of common arts.

“7. Food, fresh and preserved, in various stages of preparation.

“8. Animals and specimens of agricultural establishments.

“9. Live products and specimens of horticultural establishments.

“10. Objects exhibited with a special view to the amelioration of the moral and physical condition of the population.

“It is obvious that ten men could not do justice to all these subjects, but it would probably be better to refer the matter to that number of persons to collate and prepare for publication the reports of the assistants they may select, the number and compensation of such assistants to be fixed by the Commissioner.

“By the early appointment of this committee of ten the Commissioner would have the advice and assistance of the ablest men in the country. He would be their presiding officer, if the committee were to be called together, and would have the right to call upon them for services at any time.

“I would suggest that the committee receive no compensation for their services further than a reimbursement of expenses actually incurred. For the purpose of control, let there be an amount fixed, beyond which expenses will not be paid.

“The committee not being business men, could not take charge of the collection and shipment of goods, but they could greatly assist the agents of each State in bringing out the most characteristic and representative articles. The literary work of the commission could be divided among them, and thus matters would be greatly facilitated.

“The members of the commission ought to be familiar with at least the French language. A knowledge of German would greatly aid in the preparation of a report, as the arts and manufactures of Germany as represented in the Exposition will, no doubt, equal in importance those of any other country. Immediately after Congress shall have made the necessary appropriations, the appointment of the scientific committee ought to be made by the Secretary of State, and the committee be accredited to the Imperial Commission in Paris, as the official scientific representatives of the government to the Exposition.

"This committee would in no way interfere with the commissioners appointed by the various State executives, as their duties are of a different character.

"I would confide to the committee a mission of a somewhat private character, viz: the duty of disseminating knowledge of our country for the purpose of encouraging emigration.

"They could accomplish an important work by making known the extent of unappropriated lands in this country, by editing short statements to be published in French, on sheets, and placed conveniently for every one to take a copy, and by writing articles for the newspapers.

"The magnitude of the work expands before me as one idea follows another, but I believe I have hit upon the principal points, and I shall be gratified if the views here expressed meet with your approbation."

Mr. Beckwith to Mr. Seward.

"PARIS, December 31, 1865.

"SIR: I had the honor to address you on the 14th instant, and took the liberty of making some suggestions on the subject of a scientific commission in connection with the Exposition of 1867.

"I omitted on that occasion to allude to a consideration which I think of importance, viz: that the members of the scientific commission be paid for their services.

There may be individuals who are competent and willing to serve without remuneration, but many of those who are best qualified by their attainments and studious habits for useful researches are actively employed.

"The interruption of their engagements for a twelvemonth would be a matter of moment to them, and they are not in general men of fortune who could afford so large a contribution of time and labor gratuitously.

"If therefore Congress omits to provide for their payment, the government will be restricted in its selection to those alone who may voluntarily offer their services.

"Under these circumstances I should much fear that it would be impossible to form a commission prepared to devote themselves to the continuous labor and serious studies which are indispensable to render their researches thorough and entitle them to appear as a national work.

"The labors of a competent commission could not fail to be of great value to the country, but an exhibition of products without a commission, or an insufficient one, would be a vain, if not a useless display, because it would fail or fall short in its educational effects, which are the proper object of an exhibition.

"Large sums are expended by civilized nations on voyages of geographical exploration and discovery in all parts of the world, and with beneficial results. But scientific and industrial explorations among each other would yield still better results.

"A commission of this kind from Europe to America at the present day could not fail to bring back a great deal of useful knowledge which does not now exist in Europe, and will be a long time in reaching here, but no such movement is contemplated.

"The self-complacency of nations is in proportion to their unacquaintance with each other, and the aversions which spring from this are a great obstacle to ameliorations.

"An evidence of this may be seen in the obstinate perpetuity of the cumbrous systems of weights, measures, and coins, the unification of which would promote the diffusion of statistical and economical knowledge, like a common language, simplify and facilitate exchanges and commerce, diminish their cost, and produce savings of great aggregate importance.

"But while the march of improvements in individual nations is constant and rapid, the transmission of those improvements from nation to nation is slow.

"New knowledge of many kinds is a long time in getting into books, after which it may become an article of merchandise, but much always remains, less attractive as an object of commercial speculation, but more useful, and is left unwritten to make its way by indirect channels, circulating with persons and with the general movement of commercial intercourse.

"The transmission might however be immediate and direct; nothing is more practicable, and if international exhibitions should give rise to international scientific explorations they will have accomplished their highest function.

"Scientific commissions may then supersede exhibitions, and divert the cost of them to less cumbrous and more effective methods, for these expensive collections of products, now so much in vogue and in fact so useful, are not indispensable to the investigations in question, but only necessary as leading to these researches which previously had no organized and established existence, and are still far from being perfected.

"It is thus evident, I think, that the real purpose and object of exhibitions cannot be attained without the aid of competent scientific commissioners, and I hope the government and Congress will incline to this view of the subject."

THE ORGANIZATION AND DUTIES OF A SCIENTIFIC COMMISSION.

Mr. Beckwith to Mr. Seward.

"PARIS, January 31, 1866.

"SIR: The commissions constituted by the principal nations of Europe, in connection with the Exposition, comprise fifty or sixty members each. They are divided into sub-committees, to which are attributed separate duties, such as the preliminary work of forming the exhibition, its sub-

sequent installation and superintendence, serving on international juries, studying the Exposition in a scientific sense, and reporting upon it, &c.

"The labors of these large commissions will be facilitated by their proximity to the work; that, and inexpensive journeys, with frequent and brief visits to the Exposition, will enable them to make observations and memoranda which can be elaborated and perfected at home in their respective residences, surrounded by the conveniences of libraries, apparatus, and the aids pertaining to their habitual occupations. The large personal and office expenses necessary to the prolonged residence in Paris of a commission so numerous will be thus diminished. But this method is not fully applicable to the United States, and I have not thought it expedient on this occasion to ask for so large an appropriation as a continued residence of a commission so numerous would require. Very good results may be obtained at less cost.

"The resolutions presented to Congress on the 21st of December proposed appropriations for a scientific commission of ten members, corresponding to the ten groups of products. But this number, unassisted, will not be sufficient. It will devolve on them not only to make the requisite studies and reports, but to serve on international juries. The latter service, indeed, though requiring much time, will afford them the best opportunities for information resulting from the investigations, experiments, and discussions of the juries. But they will not be equal to the work without assistants, and they can be obtained at moderate cost.

"The services of scientific and professional assistants, draughtsmen, &c., can be engaged, whose special studies, colloquial knowledge of continental languages, familiarity with the continental nomenclature of the sciences and industrial arts, together with their personal acquaintances, access to sources of information, and works of authority and local knowledge in general, will render their services as assistants highly efficient. The Scientific Commission, thus supplemented, will be equal to the work required of it, and more useful labor can be accomplished at less cost in this way than in any other.

"I take the liberty, therefore, to recommend this subject to the consideration of the government, and to suggest that discretion be given to the Scientific Commission within such limits of expenditure as the government may determine. First, to accept of such professional assistants as may voluntarily offer without pay, for a long or short period of time; and secondly, to employ professional assistants, and pay them for their services.

"With regard to the management of the exhibition, it will be doubtless placed, in a general sense, in charge of the General Commission, which will comprise the Special Agent, the Commissioner General, and the Scientific Commission; and the work could be conveniently divided among them as follows:

"The minister of the United States, being the Special Agent, should preside at the opening ceremonies of the Exposition, and continue to be

the channel of communication between the United States Commission and the French government.

"The Scientific Commission should undertake the scientific researches and reports; also the jury duties and the various experiments, essays, and trials of machinery, &c., which may be invited, or which they may institute, and, in addition, should be charged with advisory duties, which will be hereinafter mentioned.

"The Commissioner General should be charged with the general superintendence and care of the exhibition, and with the disbursement and accounts, and he will be the channel of communication between the United States Commission and the Imperial Commission, as provided by the imperial regulations.

"The numerous national exhibitions will all be conducted in conformity, first, with the imperial regulations; and, secondly, in conformity with their own regulations, respectively, which will be supplementary to the imperial regulations. The imperial regulations (for example) make a general provision for a police applicable to persons and property, and a guard for the protection of property; but much detail is left to the commissioners general, respectively, to provide for the daily sweeping, cleaning, and proper condition of their respective sections; in providing experts, linguists, &c., in case of need, to attend in the compartments for the safety of property, and to give such explanations and information respecting products as may be necessary or desirable. All details of this kind—and they are numerous—are left to the respective commissioners general, and both the work and employés required are under their orders, subject to the imperial regulations.

"Preparations should be made in advance by the Commissioner General for the reception and bonding of the products on their arrival, for their inland transport and installation in the Exposition, where they will remain in his charge during the Exposition, and finally at its close be returned by him to the United States, or delivered to owners who may apply for them here, they first paying the duties and charges, and releasing them from bond, at which point the control and responsibility of the United States government will cease.

"The suggestions above made in regard to employés to take care of, or to give explanations to visitors in regard to, any products in particular which may require it, are not intended to prevent exhibitors; but, on the contrary, exhibitors should be invited to be present at all times themselves, or to provide at their own expense proper persons to take care of, expose, and explain their own products, as their interest may require such service, being subject to the general regulations.

"The expenses of scientific assistants and other details, herein alluded to, will not, in my judgment, involve further appropriations of money than I have heretofore suggested, should the larger sums named be provided.

"The foregoing suggestions are made in view of the imperial regula-

tions, and are so modified as to be in conformity with them, and at the same time to provide for the actual necessities of the Exposition, and for the execution of the work proposed to be done."

SCIENTIFIC COMMISSION UPON WEIGHTS, MEASURES, AND COINS.

Mr. Beckwith to Mr. Seward.

"PARIS, June 29, 1866.

"SIR: I had the honor to address you on the 14th December last in relation to the Scientific Commission formed by the French government and charged with various labors. The commission was directed in particular to promote international co-operation in the propagation of the use of new and important discoveries, and for the adoption of a uniform system of weights, measures, and coins.

"I beg now to advise you of the steps which have since been taken. At the instance of the Imperial Commission meetings have been held, composed of members of the Scientific Commission, the Imperial Commission, and the foreign commissioners, for the purpose of consultation regarding proper measures to be adopted in connection with the Exposition of 1867, for drawing public attention to the subject of uniformity in weights, measures, and coins.

"The following suggestions were made by the English scientific association and approved by the meetings:

"1st. To form a collection of the weights, measures, and coins of all nations, to be exhibited in the Palace of the Universal Exposition of 1867.

"2d. To organize an international committee charged especially with the formation and exhibition of this collection of weights, measures, and coins, and to devise the most efficacious methods of promoting uniformity.

"3d. In accordance with these views the Imperial Commission appropriated the space requisite for the exhibition of weights and coins in the Exposition palace, and formed a special committee connected with their Scientific Commission, which special committee is the commencement of the International committee alluded to to be charged with the subject.

"I annex hereto three documents, numbered 1, 2, and 3.

"No. 1 contains a brief report of the preliminary meetings before mentioned.

"No. 2 contains the approval of the proceedings of the minister of state, and a decree constituting a special committee, giving the names and professions of the persons appointed, which committee forms the nucleus of the International Committee on Weights, Coins, &c., to be constituted.

"No. 3 is a letter from this special committee asking my adhesion to the project in principle, and desiring me to take the further necessary proceedings.

"It will be observed that article five of the decree provides that additional members may be added to the International Committee by the foreign commissioners of those nations which take part in the exhibition of weights, measures, and coins.

"At the particular request of the Imperial Commission I now present the subject for the consideration of the government of the United States, and respectfully solicit their co-operation in the formation of the collection of national weights, measures, and coins to be exhibited, and in appointing or authorizing the appointment of commissioners to be added to the International Committee above named, and charged with the particular business herein described.

"I have read with great pleasure the recent proceedings in the House of Representatives relating to the introduction of the metrical decimal system into the United States, and I observe that those proceedings provide for a commission to be charged with the subject of a common unit of coin.

"If the general purposes and method of proceeding herein reported receive the approval of the government, I would venture to suggest that the commissioner to be appointed under the congressional authority alluded to be directed to prepare the proposed exhibition of weights, measures, and coins, and that he be nominated to the aforesaid International Committee.

"This arrangement will place the commissioner at once in direct relation with professional and learned persons occupied with coinage and analogous subjects, and best qualified to co-operate with him in the accomplishment of his particular object.

"The committee is now organized according to the usual forms on this side, to give additional weight to its proceedings, and it is probable that its numbers and nationalities will be increased to an extent that will comprise much ability and appropriate knowledge, and produce an influence favorable to the objects of its labor."

Mr. Beckwith to Mr. Seward.

"PARIS, July 17, 1866.

"SIR: I had the honor to address you on the 29th June, with documents relating to weights, measures, and coins.

"I beg now to wait on you with two legislative documents which are of interest.

"Document No. 216 contains the project of a law emanating from the council of state, and submitted for the consideration of the Corps Legislatif, which is designed to place the coinage of the empire in harmony with the recent monetary convention between France, Belgium, Italy, and Switzerland, and gives an exposition of the motives of the convention and the law.

"Document No. 282 contains the report of the committee of the Corps Legislatif on the proposed law, suggests amendment, and presents the

law as finally adopted, on the 13th June, 1866, together with the monetary convention.

"It results from these proceedings that a uniform system of coinage is established in the four countries named—uniform as regards the unit, the metallic standards, and the value of the pieces to be coined. Each country retains the double standard of gold and silver, with the relative value of 1 to 15½.

"The composition of gold coin remains in the proportion of ($\frac{9}{10}$) nine parts of fine gold to one of alloy, and the coinage of gold is restricted to pieces of the value of one hundred francs, fifty francs, twenty francs, ten francs, and five francs.

"The composition of the silver five-franc pieces remains in the proportion of ($\frac{9}{10}$) nine parts fine silver to one of alloy; but the composition of silver coin of smaller values is reduced from $\frac{9}{10}$ to $\frac{835}{1000}$, (835 parts fine silver to 165 parts of alloy,) a reduction in value of about seven per cent.

"The coinage of this class is restricted to pieces of the value of two francs, one franc, fifty centimes, and twenty centimes, and limited in amount to six francs per head of population, which should give about 32,000,000 francs for Belgium, 239,000,000 francs for France, 141,000,000 francs for Italy, and 17,000,000 francs for Switzerland.

"This inferior money is a legal tender between individuals to the amount of fifty francs in a single payment, and receivable for dues to the government without limit. It follows from these measures that the unit of the monetary system (one franc of the standard of $\frac{9}{10}$) will cease to be coined; but it retains a nominal existence; it remains money of account and is still the unit of the monetary system, and the measure of all values, though it has no material existence except in its multiples, of which the quintuple or five-franc piece is the smallest coin.

"The reduction in the value of small silver coin brings the standard of this class in harmony, I believe, with the small silver coin of the United States, under the law of 1850. If this be so, the metallic standards both of the gold and silver coin of the United States are now in harmony with those of the four countries named, and the standards being in harmony and the system all decimalized, it only remains to harmonize the coin in order to produce reciprocal circulation. For this purpose a common unit does not appear to me to be necessary. However numerous the systems, if the standards are equal and the system decimalized, it is only necessary that the unit of each be capable of expression in the multiples or sub-multiples of the others to produce the uniformity of coinage requisite for reciprocal circulation.

"Coining a unit of either system will then be, of necessity, coining at the same time a unit multiple—a sub-multiple of all the systems—and these conditions are much easier of attainment than a common unit. Nor is it of moment what names may be given to coin in different countries, nor how numerous the varieties, or various their values; they will all be aliquot decimal parts of a common system, the coin of each refer-

able to the unit of its own system, and referable with equal facility to the multiples or sub-multiples of the units of the other systems.

"To attain this result, no substitution of the unit of one country for that of another country is needed, because no common unit is required. That great difficulty may be obviated by very slight modifications of existing units, and modification is the easy way of all reforms.

"Our gold dollar, for example, is equal to 517 centimes; a reduction of seventeen centimes ($3\frac{1}{2}$ cents) would leave it an exact multiple of the French unit, or franc, and the equivalent of five francs. A reduction of twelve centimes ($2\frac{1}{2}$ cents) in the value of the British sovereign would leave it a multiple of the franc, and the equivalent of twenty-five francs, and consequently a multiple of the dollar, and equivalent to five dollars, nearly.

"In like manner, a small change in the standard of British gold—from $\frac{916}{1000}$ to $\frac{900}{1000}$ —would complete the uniformity of the standard of gold coin; for nearly the whole civilized world, except England, has adopted the standard of $\frac{9}{10}$.

"Modifications of this kind are not difficult; they are common. They produce no inconvenience to the public; they do not disturb business, nor trench upon prejudices; they come in almost imperceptibly, and in this case would leave the unit of each national system, the great traditional measure of value, in effect undisturbed, with all their mottoes, emblems, and effigies, and with all the impregnable habits of mind, and even the superstitions, which cluster around them.

"The tenacity with which nations and peoples hold to their traditional measures of value is remarkable, and, whether it springs from a principle or a prejudice, it is a fact so firmly fixed that it is difficult to eradicate; nor is it worth the labor, if a common language of values can be otherwise attained."

Mr. Beckwith to Mr. Seward.

"PARIS, September 6, 1866.

"SIR: I have not been informed whether the government would consent to participate in the proceedings proposed in my letter of the 29th June, relative to weights, measures, and coins.

"I beg now to place before you a letter on the subject from M. Mathieu, president of the committee, together with a plan of the proposed structure for the international exposition of weights, measures, and coins, with explanations relating to the proposed collection.

"I took leave to suggest in my previous letter that the commissioner charged with the subject of a common unit of coin might advantageously be associated with this committee.

"I have not been able to learn whether such a commissioner was appointed by Congress; but I think it would be useful to take part in the proposed exhibition and in the proceedings of the international committee.

"The expense on this side, as set forth in the accompanying papers, is small, (about \$300,) and I cannot doubt that some member of the commission for the Exposition already named would like to be charged with the exhibition of weights, measures, and coins, and be added to the international committee alluded to, if the government thinks proper to make this appointment.

"I trust your excellency will think favorably of this proposal, and enable me to inform M. Mathieu of the co-operation of the government of the United States in the useful aims of this commission."

*M. Mathieu to Mr. Beckwith.*¹

"PARIS, September 4, 1866.

"SIR: In reference to our circular of the 25th June, relative to the international exhibition of measures, weights, and coins, I have the honor to send you, in the name of the committee, a project to fix the participation requested of each country, and respectfully ask you to submit it to the United States Commission, with the following explanations:

"This project was examined on the 25th instant at a conference in which the commissioners and delegates present in Paris took part, and the discussion showed the necessity of the concurrence of twenty states or groups of states, and the great probability that this participation would be obtained by reason of the importance of bringing together all the bases of exchange.

"The outside estimate is 30,000 francs, and the expense of installment is 1,500 francs for each state.

"The Imperial Commission gives this assessment for France, and, as the spaces for the different states are to be of the same dimensions, the committee proposes to guarantee the same quota of 1,500 francs to the United States Commission.

"The site for the special exhibition of measures, weights, and coins is isolated, (in the center of the grand entry,) and the Imperial Commission needs all information as soon as possible, to settle it definitely; and the construction of the tower of iron and glass must be executed with all the carefulness required by its destination and situation, so as to be one of the first objects that strikes the view of visitors.

"It is, therefore, highly necessary to arrive at a definite conclusion immediately, and we request the United States Commission to inform us of its decision as soon as possible.

"The inclosed photograph shows the nature of the building planned by the committee. The detailed programme of the series of measures, weights, and coins to be sent, will, of course, be considered hereafter by the full committee. In order to arrange this programme, as well as to fix the details of installment, it is desirable for the United States to appoint a person to represent them in the committee, and we request

¹ Translation.

that he be designated, and his name sent to us when the terms of our proposition are accepted.

"In regard to the series of weights and measures, in case the United States Commission will immediately collect a set, we must recommend the most common form, made, however, with the greatest possible care, so that the result of the comparison of the series in 1867, without pretending to the degree of exactness of scientific comparisons on legal standards, may offer that precision required in the practice of commercial exchanges.

"As to coins, it is only necessary to exhibit a double series of the current coin of the latest issue.

"INTERNATIONAL EXHIBITION OF MEASURES, WEIGHTS, AND COINS.—The exhibition is to take place in a glazed iron tower, accessible from the inside and outside. It is divided vertically into twenty equal sections, allotted to the different states or groups of states. The frieze and cornice have each section ornamented with the arms, emblems, and colors of the different countries. A double stairway will lead from the interior to the balconies of the first and second story. The ground-floor is for measures, weights, and coins. Measures of length are placed vertically in a circular rack near the partition. The weights are placed on pyramid stands. The coins, in a double series, for the face and reverse, are placed in frames against the wall, on a level with the eyes; and the shelf marked 4 displays the same coins of different countries on the same level. Measures of capacity occupy the basement. Road and field measures can be represented on the floor of the outside gallery in a uniform reduced scale.

"The first story is appropriated to paper money and documents. Paper money, postage stamps, and trade marks are placed on the walls. The inside of the glazed partitions has shelves or frames for pictures, manuals, and documents of all kinds relating to systems of measures, weights, and coins, and to methods of conversion.

"The second story is for measures of angles and time. Angular divisions of the circle and sphere are represented upon a globe, and the circles supporting it; and if any exhibitor will take the expense of making a clock, the globe turning on its axis may serve for it, with two hands and a dial at the poles indicating the hours from noon to sunrise. The glazed cage surmounted by the globe contains the calendars and almanacs. The portions of the world where the different systems of measures, weights, and coins are used are shown by different colors upon the globe."

Mr. Seward to Mr. Beckwith.

"DEPARTMENT OF STATE, October 4, 1866.

"SIR: I have to acknowledge the receipt of your communication of the 6th ultimo, relative to the proposed participation by the United States

in the proceedings described in your letter to me of the 29th of June last, for the promotion of the adoption of a uniform system of weights, measures, and coins.

"I have to inform you in reply, that Samuel B. Ruggles, esq., one of the ten scientific commissioners, will be charged with the subject of a common unit of coin, and will be authorized to co-operate with the committee, of which M. Mathieu is president, in the manner which you suggest.

"Mr. Ruggles represented the United States at the late statistical congress at Berlin, and has already been in correspondence with the international committee, organized on that occasion, upon this important subject, to which he has devoted much study. A copy of your communication now under reply will be forwarded to him, and he will be requested to enter into correspondence with you. Any letter addressed to him, which may be sent to the care of Mr. Derby, the general agent at New York, will reach his hands."

Mr. Seward to Mr. Ruggles.

"DEPARTMENT OF STATE, *October 9, 1866.*

"SIR: You are hereby officially designated to take charge of that branch of the representation of the United States which relates to the question of the adoption of a uniform system of weights, measures, and coins, and you are authorized to co-operate with the committee, of which M. Mathieu is chairman, in the manner suggested in Mr. Beckwith's dispatch of the 6th ultimo. You will enter at once into correspondence with Mr. Beckwith on the subject."

Mr. Ruggles to Mr. Seward.

"NEW YORK, *December 20, 1866.*

"SIR: The Department of State having designated the undersigned, by written instructions of the 9th of October last, 'to take charge of that branch of the representation at the Universal Exposition at Paris, in 1867, which relates to the question of a uniform system of weights, measures, and coins,' and 'to co-operate with the special committee appointed by the government of France, of which M. Mathieu (member of the Bureau of Longitudes) is chairman,' the undersigned, on the 13th of October last, in entering on the discharge of the special duty thus committed to him, asked leave, in his communication of that date to the Department of State, to 'invoke the co-operation of any or all of the eminent individuals with whom he is associated in the commission authorized by Congress.' The Department having approved this request, the undersigned has invited the counsel and co-operation of Mr. James H. Alexander, of Maryland, he being one of the twenty commissioners appointed by the President of the United States. This selection was made in view of the pre-eminent qualifications of Mr. Alexander, in his

well-known scientific attainments, and his long and careful study of the particular subject of uniform weights, measures, and coins, so fully manifested in the published works which he has already given to the world.

"It is gratifying to add that the association of Mr. Alexander in this important duty has met the special approbation of the honorable Mr. McCulloch, Secretary of the Treasury, who has given permission to carry to Paris, for exhibition, the standards of national weights and measures now in charge of the Superintendent of the Coast Survey, with such of the balances and other scientific apparatus as may be needed for their full illustration. A similar application will be made to the Director of the Mint for a series of all our national coins now in actual use, to which it is proposed by the undersigned to add, with the aid and co-operation of Mr. Alexander, a full collection of all our former coins, particularly including those which were issued by the separate States during the period in our national history preceding the adoption of the articles of confederation in 1781, and reaching back, as far as practicable, into our colonial era.

"Such an exhibition, it is believed, will conclusively show the value of our united government in unifying or extinguishing the multiform and widely varying measures of money, which otherwise would have overspread our continental republic from ocean to ocean. It will do more: it will demonstrate, by visible example, the transcendent importance of the higher problem of unifying the varying coins of the numerous nations of the civilized world, which is to be discussed in the coming concourse at Paris.

"In that discussion the salutary influence of our 'Old Confederation,' followed by the American Union, in simplifying the coins of our Western World, will doubtless be considered in comparison with the recent political consolidation of Northern Germany, under the guiding hand of Bismarck, and its probable effects in reducing the heterogeneous coinage of that hitherto fragmentary portion of Europe to one common national system.

"Without entering prematurely into the broad field of scientific inquiry embraced in the subject of uniform weights, measures, and coins, it will be evident that many questions must arise, not only scientific, but commercial and political in character. Especially must this be the case with respect to a uniform coin or unit of money, in the adjustment of which commercial habits and national prejudices must inevitably modify any decision on grounds purely scientific.

"The general proposition that the prosperity and civilization of mankind would be greatly advanced by the use of a common coin of uniform fineness, no one will deny; but we shall be met at the threshold by the question, what shall be the weight of this unit of money; and especially by the inquiry, from which of the various systems of coinage now in use by the different nations shall that unit be selected? not to speak of a

proposition which may be presented for a new unit wholly irrespective of any existing system.

"These questions were discussed at considerable length in the International Statistical Congress at Berlin, in 1863, but were found so difficult of solution that a 'special congress' was recommended by that assembly, at which they might be more carefully and deliberately examined. The disturbed state of the interior of Europe, with other causes, has hitherto prevented the convocation of this 'special congress;' but it is hoped and expected that the 'concourse of nations' at the coming Exposition at Paris will practically afford the opportunity for such a convention.

"From present indications it is fully evident that the projects to be proposed by scientific men from different portions of the world, profoundly involving not only the value but the accuracy of the present metre, will be numerous and conflicting; but it is probable, to say the least, that the discussion will at last be practically narrowed to the single inquiry: Shall the British pound sterling, or the French franc, or the German thaler, or the Russian ruble, or the American dollar, be selected as the common unit of money?

"In deciding such a question, necessarily involving so much of national feeling, we shall need at Paris something more than abstract science. We shall need the counsel and co-operation to their full extent of our most eminent bankers, ship-owners, merchants, and manufacturers. It is true that their opinions, with some of the results of their varied experience, might be partially collected by active correspondence; but all such opinions should be subjected to the legitimate and modifying influence of personal conference and mutual comparison in actual open convention.

"In many respects it is to be regretted that the joint resolution of Congress under which the United States Commission to Paris has been appointed should have expressly excluded members of Congress, and 'every person holding an appointment or office of honor or trust under the United States;' thereby depriving the country of the services of all the members of the national legislature, and of many others in public employment, civil and military, whose counsel and co-operation would have been in the highest degree valuable and important. Without any invidious distinction we may surely refer to the chairmen of the proper committees in the Senate and in the House of Representatives, whose experience and well-directed intelligence recently carried through the present Congress the important acts for the partial establishment in the United States of the 'metric system,' commencing, in truth, a new era in our commercial history.

"The undersigned would, therefore, venture respectfully to suggest, in behalf of himself and any other commissioner or commissioners associated or to be associated with him on this special committee, the expediency and propriety of their being allowed, under proper limitations,

to invite the co-operation as associates in the committee of at least five of their fellow-countrymen of well-established ability, and not included in the present commission.

"It will be seen at page 56 of the third supplemental circular, published by the Department of State, that the special committee appointed by the imperial government embraces five distinguished individuals; four of whom are members of the Institute of France, and one an assayer in the mint. In justice to the special committee to represent the United States, it ought to embrace at least an equal number.

"A similar suggestion for increasing the numbers in all the branches of the national representation at Paris will be found in an able and interesting letter from Abram S. Hewitt, esq., of New York, one of the best informed and most intelligent manufacturers in our country, a copy of which is herewith furnished. Its clearly-conceived and well-expressed convictions, as well as the facts adduced in illustration, are well worthy of the attention of the commissioners, if not of the government. They are certainly in harmony with the general wish and expectation of the patriotic and far-seeing citizens of the United States that the opportunity so unusual, afforded by this Universal Exposition, the great occasion of the present century not only for exhibiting to the world the varied elements of our national strength, but for vastly increasing their value by careful study and full reports of the industries of other and older nations, may not be lost through any want of prompt and adequate support by the government of the United States."

Mr. Hewitt to Mr. Ruggles.

"NEW YORK, December 18, 1866.

"MY DEAR SIR: I have found no time to make a suitable reply to your request that I would give you my views as to the best mode of making the coming Exposition of Industry, at Paris, of real value to the people of the United States. I cannot, however, allow the opportunity to pass without submitting briefly a few suggestions, which your own experience will enforce in the proper quarters.

"These international exhibitions of industry are peculiar to the present age, and a practical recognition of the claims of labor on the attention of governments, as the real foundation of national greatness. To the people of the United States they have a special interest, as marking the steady progress in Europe of the cardinal ideas which underlie our political system.

"But in addition to this rather theoretical view of their significance, these exhibitions are of the greatest practical importance to us, if we avail ourselves of all the advantages which they offer.

"First an opportunity is offered to make known to the intelligence and capital of Europe the great natural advantages of this continent, for the cheap production of the great staples of human industry. The Expo-

sition collects together, at one time and in one place, the most intelligent and enterprising men of all nations, who come either as commissioners or visitors. There is unusual freedom from restraint in personal intercourse, and more can be imparted and secured in a few months than could otherwise be possible with years of effort.

"However great may have been our need heretofore for capital and skilled labor to develop our resources, the late civil war has left one-half of the country in so devastated a state that our existing means are totally inadequate to the work of restoration. We want labor, skill, and capital from abroad, in order to restore the 'waste places' of the South at the earliest possible moment.

"The resources of the Southern States, especially in the way of coal and iron, are almost unknown in Europe, and but little understood even at home. There will not be another opportunity for ten years to bring this knowledge to the comprehension of Europe, and to lose ten years in the present age is to throw away an empire. It is, therefore, a matter of the highest national concern that the commissioners who represent this country shall be able to make known to the representatives of other nations the immense natural resources which in this country, and especially in the Southern States, offer such rich rewards to enterprise and capital.

"Secondly, the commissioners should be men of such technical knowledge in the various departments of industry that all improvements can be detected, described, and imparted by proper drawings and models to our own mechanics who cannot visit the Exposition. It is, doubtless, unreasonable to expect to secure such an official representation as would best accomplish this object; but power should be given to the board of commissioners appointed by the general government to add to their number the name of every American of special technical knowledge who either expects to visit the Exposition, or will agree to do so if appointed.

"This is not only just and proper, and in accordance with the spirit of our institutions, but in no other way can the results of the Exposition be made of permanent value to this country. Every such commissioner would, of course, be detailed to examine the special department with which he is conversant, and make a full and accurate report of the result of his observations. In this way it is reasonable to expect that the whole ground will be covered; and the reports, when collected and published, will convey to the nation a larger amount of technical knowledge than could be procured in any other way.

"It is idle to expect that mere visitors, as such, will either procure or make known this information. I was a visitor at the English exhibition of 1862. I was free to examine the results of labor, skill, and ingenuity which were there collected together. But to understand the processes by which these results were procured, it was necessary to visit the workshops and the factories. To mere visitors those places were closed, but to commissioners every door was open. At Sheffield, for example, I had

the greatest possible difficulty in getting access to the establishments where the new processes for making steel were carried on; and several times, when I was pleading my claims for admission, I saw foreign commissioners admitted, with smiling faces, on the mere production of their letters of appointment.

"Allow me to say that there is no branch of business, however trivial, which will not be greatly benefited by a knowledge of the methods employed abroad in the same department of industry. *The nation that possesses the best tools and the best processes will be the most powerful and the most highly civilized.* This is the true explanation of the present position of Great Britain. Her commercial supremacy rests on her steamships, and the superiority of these ships is due to her tools and her skill in using them. Great Britain builds the best engines, and hence her industry is more thoroughly and economically administered than that of any other country. We want the knowledge, and we want it diffused over all departments of business in which our people are employed. For want of this knowledge we are always years in arrear of our foreign competitors, even in the processes which affect the production of staple raw materials, such as iron, wool, silk, and even cotton.

"In Sweden the use of sulphury ores has been made practicable by a new process of roasting. Here they are totally rejected, and it is generally supposed that they cannot be used, and yet the Swedish process will greatly enlarge the business here, and reduce the cost of making iron. Again, the Bessemer process makes but slow progress here, from want of the proper and accurate knowledge of the results in Europe. We lose every day by the delay, and this lack of knowledge extends to nearly every branch of business.

"Hence I urge—and this is the main object of this hasty and imperfect letter—that you will press on Congress the propriety of giving the commissioners power to add to their number all such persons as may have special technical skill, who will agree to go to Paris at their own cost, and prepare for the commission a full and accurate report on the special department for which the appointment is made."

In compliance with a resolution of the Senate of the 19th December, 1866, the progress made in collecting the products, and the weights, measures, and coins of the United States, for exhibition, was reported by the Secretary of State, and transmitted in a message of the President, January 18, 1867, and was published.¹ A portion of the foregoing correspondence is reprinted from that document. Other letters from Mr. Ruggles will there be found, and a full report from him upon the proceedings of the committee on weights, measures and coins, and of the International Monetary Conference, was transmitted by the Department to the Senate, December 17, 1867, in compliance with the resolution of the 6th of December.² The subject has also been more fully reviewed and discussed in the Report upon the Precious Metals.

¹ Senate Ex. Doc. No. 5, 39th Congress, 2d session.

² Senate Ex. Doc. No. 14, 40th Congress, 2d session.

CATALOGUE AND STATISTICS.

Mr. Beckwith to Mr. Seward.

“PARIS, July 31, 1866.

“I have the honor to acknowledge the receipt of your letter of the 7th instant, with a copy of the resolution of Congress No. 52, a copy of the circular of the Department of State of the 6th July, addressed to the governors of States, and directions for me to make provision for the reception of such additional products as may be sent in to Mr. Derby hereafter.

“I have, in conformity, explained the situation to the Imperial Commission. They expressed the opinion that the latest date which could be safely given for closing the catalogue would be the 1st September, but they finally consented to the 15th September. I have, therefore, agreed to close the catalogue on the 15th September, and to deliver it to them on or before the 1st October, and have advised Mr. Derby of this agreement.

“It was feared that default would occur with Prussia and Austria, but the catalogue of the former was sent in a few days since, and the catalogue of Austria came in to-day, one hundred and seventy pages, well arranged and well printed.”

PREPARATION OF A STATISTICAL SUMMARY.

Mr. Beckwith to Mr. Seward.

“PARIS, September 22, 1866.

“The annexed letter from M. Le Play, conseiller d'état, proposes the publication, in connection with the catalogues of the Exposition, of brief statistical information, which will be useful and interesting.

“The statements desired can probably be compiled, from materials in the Department of the Interior, in a short space of time and without great labor, as they will not require new researches. It is unnecessary to follow exactly the programme presented; statements which cannot be conveniently and readily made, such as the one which I have marked fourth, may be omitted; others thought useful may be added; and I would suggest, in addition, a synopsis of the present national banking system, which is a new institution worthy of notice.

“The opportunity thus presented of diffusing among the people statistical knowledge regarding the United States, authenticated by the government and sanctioned by imperial authority on this side, is rare, and I hope it will be considered, in your estimation, of sufficient importance to warrant the preparation of the requisite statements, and that they may be made as soon as possible, on account of the time required for translations and printing and the short period which remains for it.”

*M. Le Play to Mr. Beckwith.*¹

“PARIS, September 14, 1866.

“I had the honor to address you on the 24th August, with specimens of the general catalogue of the Exposition.

“The Imperial Commission now desires to add to the catalogue of each country statistical information relative to the territory, population, productive force, naval force, military force, and financial organization.

“In connection with the minister of agriculture, commerce, and public works, the Imperial Commission is now preparing for France a similar statement, which may serve as a programme for other countries, as follows:

“**TERRITORY.**—Geographical position. Seas, mountains, and principal rivers. Administrative divisions and principal cities. Superficial area; development of coasts and frontiers; extent of principal basins or valleys. Ways of communication—extent of roads; railroads and telegraphs; canals and navigable rivers; surface and circumference of lakes and inland seas.

“**POPULATION.**—Whole population; population by race, sex, and religion; by language, professions, and occupations; population of principal cities; average increase of population since 1855; emigration and immigration.

“**PRODUCTIVE FORCE.**—Quantity and value of the annual products of agriculture, of forests, of hunting and fishing, of mines and minerals, of textiles, and of manufactures of various kinds.

“**COMMERCE.**—Actual value of imports consumed in the country; value of exports being the produce of the country; aggregate imports and aggregate exports.

“**INTERIOR TRANSPORTATION.**—Transportation on roads, canals, rivers, interior seas, and lakes; coasting trade; railroad traffic; number of letters and number of telegraphic messages.

“**MARITIME NAVIGATION.**—Number and tonnage of vessels entered and cleared under the national flag; the same under foreign flags.

“**ARMY.**—Effective force of standing army and of militia.

“**MARINE.**—Personal force and material force of the navy and of the mercantile marine.

“**FINANCE.**—Receipts and expenditures forming the budget of the state; local receipts and expenditures of states, provinces, departments, and communes.

“This programme contains the elements necessary to a comparison, in an economical point of view, of the relative force and wealth of nations

Fourth. “Nevertheless, to respond more fully to the idea of the Emperor, who has instituted a new Order of Recompenses for the Exposition of 1867, it will be useful to add to the above statistical information a succinct account of any special industrial institutions which have developed, in a remarkable manner, harmony among the different

¹ Translation.

classes of producers, and the material, moral, and intellectual well-being of the workmen.

"The Imperial Commission thinks, Monsieur le commissaire, that the United States will be willing to prepare, by the 1st of October, a statement on the basis analogous to that which I now have the honor to present to you, adopted by France.

"A collection of similar documents relative to each country will prove a useful complement to the catalogues, for the study of visitors to the Exposition.

"I have only to add that the intention is not a voluminous work, but a short notice, and the more summary, the better it will enter into our plans."

PRINTING AND PUBLICATION OF THE CATALOGUES.

Mr. Beckwith to Mr. Seward.

"PARIS, January 18, 1867.

"SIR: The publication of catalogues of the Exposition being a matter of importance, I submit a brief explanation of the existing circumstances relating to it:

"First. The general plan of the Imperial Commission proposed to publish an official catalogue in French, leaving other nations free to publish their own catalogues, each in its own and other languages except French, if they chose, and proposed also to sell the official catalogue at a low price, less than the cost, which they would be enabled to do by deriving a profit from advertisements permitted to be inserted in the catalogue, which propositions were, in general, considered satisfactory.

"Second. The Imperial Commission then contracted or sold a contract to a publisher conceding to him the right to print and sell the official catalogues at a fixed price. They also sold and conceded to him the right of advertisement in the catalogues, limiting the quantity of advertising space, but leaving the price of advertisements unlimited, and to be settled between the contractor and the advertisers.

"The right of advertisements was apportioned among nationalities, and these rights were resold by the contractor to sub-contractors or speculators, who offer them in turn to advertisers in different countries at prices which may be agreed upon between them.

"The original contracts of the Imperial Commission are construed by the holders as conceding to them exclusive rights in regard to the publication of catalogues, and in regard to advertisements, and that consequently the publication and sale of catalogues or advertisements by other nationalities is an infringement of their rights.

"Differences of opinion between the Imperial Commission and the contractor for the official catalogues have arisen, and are the subject of friendly adjudication in the courts, which differences have not yet been decided.

"I have not followed this litigation so closely as to be able to state, with legal accuracy, the exact points of difference between the Imperial Commission and the contractor, and may not have correctly indicated it, but accuracy in this is not essential to my present purpose.

"Third. The contracts made by the Imperial Commission were, however, of a nature, as construed by themselves, to trench upon the general plan suggested in my first paragraph, and were consequently the subject of reclamations by foreign commissioners.

"The Imperial Commission admitted that other nations had still the right to print and sell their own catalogues in their own language, but they thought that if the foreign commissions desired to advertise in their own catalogues, and to print them in other than their own language, that this would infringe upon the rights conceded to the aforesaid contractors, and that such publications should therefore be the subject of agreements between the foreign commissions and the said concessionaries.

"The foreign commissions, in general, were not of this opinion, but thought they were entitled to publish their own catalogues in any language they might choose, and to advertise in them for their own profit, as a method of defraying expenses, on the same principle as that adopted by the Imperial Commission.

"The questions thus raised are not yet definitively settled, but are the subject of frequent discussion, and I have no doubt will be soon definitively disposed of as between the Imperial Commission and foreign commissions, though I am not confident that they can now be so adjusted as to avoid all difficulties with the contractors.

"Fourth. My object in presenting these remarks is to bring to your notice the actual situation in regard to the catalogues. It is very desirable to print them in at least three languages, English, French, and German; we are lamentably in arrears in preparing our catalogue, and my great anxiety is to perfect it in time to be published for the opening of the Exposition on the 1st of April, when the jury work will commence, which cannot be properly done without catalogue in hand.

"It should thus be published in the French language, but I have not any funds for its publication and *gratuitous distribution* in English or any other language.

"I have relied on the conviction that the right of sale and advertisement, which I consider included in the programme of the Imperial Commission of the 22d of August, would defray the expenses of publication in our own and other languages than French, which resource, however, was placed in question, and is still in suspense, as above stated.

"If, therefore, Congress should not appropriate money for the publication and gratuitous distribution of the catalogue, in our own and other languages than French, we shall not be provided with such catalogues unless by the means, before mentioned, of income from advertisements

and sales; and believing that to be a proper method I am disposed to adopt it. But I think it would be going beyond my duty to do so without first presenting the situation and soliciting your directions, or, at least, the expression of your opinion for my guidance.

"My proposition is to print and sell the catalogue in English and in German, and to render accounts of the expenditures and of the receipts from sales and advertisements and to carry the balance of that account, be it a debit or credit, into the general account of the Exposition."

AGRICULTURAL MACHINES AT BILLANCOURT.

Mr. Beckwith to Mr. Seward.

"PARIS, May 17, 1867.

"SIR: In respect to the experiments to be made with agricultural implements at Billancourt, the trial of plows has already taken place.

"We have several varieties in the Exposition, and I regret to be obliged to state that none of our exhibitors gave any directions or made any preparations to put their plows to the trial, and consequently none of them took part in the competition.

"The competition of mowers will commence on the 23d instant, and that of reapers will take place in the last half of July.

"Several of our exhibitors will take part in these competitions. They are now training their horses, and will, I trust, be well prepared for the contest.

"I have authorized John P. Reynolds, esq., secretary of the State Agricultural Society of Illinois, and commissioner from that State, to superintend these trials, and have obtained from the Imperial Commission the appointment of Mr. Reynolds as a juror on these experiments, that the interests and machines of our exhibitors may be fairly appreciated."

Mr. Beckwith to Mr. Seward.

"PARIS, August 2, 1867.

"SIR: I have the honor to report the result of the final field trials of reaping machines and mowing machines, which commenced on the imperial farm of Fouilleuse, on the 26th July, but, being interrupted by bad weather, were terminated at Vincennes on the 31st ultimo.

"The number of mowers entered for competition was seventeen, and of reapers sixteen, being the products of several nationalities.

"The superiority of the American machines soon became apparent, and it was evident that the chief contest would be among themselves.

"The decision of the jury is as follows:

"Mowing—the 'W. A. Wood mower,' No. 1; 'I. G. Perry mower,' No. 2; 'C. H. McCormick mower,' No. 3.

"Reaping—'C. H. McCormick,' No. 1; 'Seymour, Morgan & Allen,' No. 2; 'W. A. Wood,' No. 3.

"These results will add to our successes probably two more gold, two silver, and two bronze medals. None of the other machines are rated higher than honorable mention or bronze."

INTERNATIONAL JURY AND THE AWARDS.

Mr. Beckwith to Mr. Seaward.

"PARIS, June 24, 1866.

SIR: The document hereto annexed, marked No. 1, contains the project of the Imperial Commission for distributing 800,000 francs in prizes among exhibitors, for the organization of international juries to award the prizes, describes the nature and value of the awards, the manner of composing the juries, the regulations for their guidance, and the dates for the commencement and completion of their work.

"Document No. 2 contains the report of the minister of state upon document No. 1, and an imperial decree approving the report and legalizing the project of the Imperial Commission.

"The principal new feature of the plan is developed in that part of the report of the minister relating to section four of the project, which appropriates ten prizes of 10,000 francs each, and one capital prize of 100,000 francs, not for the excellence of material products exhibited, but for local establishments which are most successful by their organization and management in promoting the prosperity and harmony and the moral and intellectual well-being of the operatives."

ORGANIZATION OF THE INTERNATIONAL JURY.

The following is a translation of regulations fixing the kind of prizes, and organizing the juries for distributing them, discussed the 8th of June, 1866, and approved by imperial decree the 9th of June, 1866.

"TITLE FIRST.—GENERAL DISPOSITIONS.

"ARTICLE 1. The sum of 800,000 francs is appropriated for prizes to be awarded at the Universal Exposition for 1867.

"ART. 2. An International Jury is appointed to adjudge the premiums. The International Jury is composed of six hundred members, distributed among the different nations according to the space occupied by the products of each. The result of the distribution is laid down in tables A and B, annexed to the present regulation.

"ART. 3. The French members of the International Jury of Awards are appointed by the Imperial Commission. The foreign members are appointed respectively by the national commissions of each country. All appointments must be made previous to the 1st of December, 1866. The Imperial Commission, after consultation with the foreign commissions, shall assign the members of the jury to classes.

"ART. 4. The International Jury must finish its labors between the 1st

of April and the 14th of May, 1867. However, as regards Classes 52, 67 to 88, and 95, the duties of the jury shall continue during the Exposition.

"ART. 5. The formal distribution of the prizes is fixed for the 1st of July, 1867.

"TITLE SECOND.—GROUPS OF WORKS OF ART.

"ART. 6. The prizes at the disposal of the International Jury for works of art are arranged as follows: 17 grand prizes, each valued at 2,000 francs; 32 first prizes, each valued at 800 francs; 44 second prizes, each valued at 500 francs; 46 third prizes, each valued at 400 francs.

"ART. 7. The prizes in article six are distributed as follows, among the four sections of the fine arts arts, corresponding to the classes of Group I:

"First section, (Classes 1 and 2 united:) 8 grand prizes, 15 first prizes, 20 second prizes, and 24 third prizes.

"Second section, (Class 3:) 4 grand prizes, 8 first prizes, 12 second prizes, and 12 third prizes.

"Third section, (Class 4:) 3 grand prizes, 6 first prizes, 8 second prizes, and 6 third prizes.

"Fourth section, (Class 5:) 2 grand prizes, 3 first prizes, 4 second prizes, and 4 third prizes.

"ART. 8. The jury for the groups of works of art is composed of sixty-three members. The numeral proportion of the French and foreign members in each of the four sections is indicated by table A, annexed to the regulations. The French members of the four sections are appointed by the Imperial Commission among the members of the jury of admission. They will be chosen equally from the three lists forming the jury, instituted according to the decision of the 12th of May, 1866. The exhibitors who are members of the International Jury for works of art are not excluded from the competition for prizes. Each of the four sections is presided over by one of its members selected by the Imperial Commission. Two of the presidents are French.

"ART. 8. The four sections may assemble to propose modifications in the distribution of prizes, if necessary, as designated in article seven. The Imperial Commission selects one of its members to preside at the meeting of the four sections.

"TITLE THIRD.—THE NINE GROUPS OF AGRICULTURAL AND INDUSTRIAL PRODUCTS.

"ART. 10. The prizes at the disposal of the International Jury for the agricultural and industrial products are arranged as follows:

"Grand prizes and awards in silver to the total value of 250,000 francs.

"One hundred gold medals, worth 1,000 francs each.

"One thousand silver medals.

"Three thousand bronze medals.

"Five thousand honorable mentions, at least. All the medals are of the same form.

"ART. 11. The grand prizes are awards of merit for inventions or improvements in the quality of products and mode of manufacture.

"ART. 12. The prizes mentioned in article ten, for the nine groups of agriculture and industry, are adjudged by the class juries, the group juries, and the superior counsel.

"ART. 13. The numerical proportion of the French and foreign members in each of the class juries is fixed by table A, annexed to the present regulations.

"ART. 14. Each class jury meets from the 1st of April, 1867. At its first meeting it elects a president, a vice-president, and secretary. A secretary must be appointed before the 10th of April.

"ART. 15. Class juries may add members or select experts from the other classes of the International Jury, or outside; in the latter case the selection must be approved by the Imperial Commission.

"ART. 16. Exhibitors who have been made members of the International Jury cannot be competitors for prizes. Exhibitors in a class jury as members or experts are also excluded from competition in products of the class of which they are to be judges. However, the Imperial Commission may authorize certain exceptions to the exclusions mentioned in the preceding paragraphs.

"ART. 17. The foreign commissions are requested to select delegates for the class juries to furnish information to the jury about the exhibitors of their country. The place of residence of these delegates must be made known to the Imperial Commission before the 20th of March, 1867. The same duties are performed for the French Section in each class jury by the corresponding committee of admission.

"ART. 18. Between the 1st and 14th of April, each class jury of Groups II, III, IV, V, VI, and X shall examine the products, and class the exhibitors deserving prizes, without distinction of nationality. The class jury then makes out a list of exhibitors excluded by article sixteen, and proposes proper exceptions. It then classes the assistants, masters, and workmen, without distinction of nationality, to be recommended for services to agriculture or industry, or for their participation in the production of remarkable objects at the Exposition. The class lists, signed by the members who made them, shall be filed by the reporter with the Commissioner General, by the 14th of April at latest. Class juries of Classes 52 and 95 only furnish the information necessary to fix the number of awards for those classes, and propose associates to assist in the examination of the objects exhibited. If a class jury has not presented the lists by the 14th of April, the Imperial Commission shall attend to it.

"ART. 19. Between the 1st and 14th of April each class jury of Groups VII, VIII, and IX makes out a list of associates to assist in the

examination of the products during the Exposition, and furnishes information to fix the number of awards.

"ART. 20. The presidents and reporters of the class juries are members of the group juries; in case of absence of the president, the vice-president shall take his place. One president and two vice-presidents are appointed outside of the members for each group jury. The arrangement of presidents and vice-presidents of group juries, among different nations, is designated by the table B, annexed to the present regulations. In accordance with article three, the French president and vice-presidents are appointed directly by the Imperial Commission; the foreign, by the national foreign commissions. The secretary of each group jury is appointed by the Imperial Commission.

"ART. 21. Between the 15th and 28th of April each group jury of Groups II, III, IV, V, VI, and X examines the claims, fixes the lists of classification drawn up by the class juries, and writes the award after the proper name. For Classes 52 and 95, only the number of prizes is designated. It joins in turn each class jury in its deliberations, but only has a deliberative vote. These preliminary operations of the group juries must close and the result be communicated to the Commissioner General by the 28th of April, at the latest. If it is not done by that time the Imperial Commission will attend to it.

"ART. 22. Between the 15th and 22d of April each group jury of Groups VII, VIII, and IX makes out the lists of associates presented by the class juries and makes known the number of awards of each class to the Commissioner General.

"ART. 23. The president and vice-presidents of the group juries are called to constitute the superior council of the jury. One of the vice-presidents of the Imperial Commission shall be president of that council. The assistant secretary of the Imperial Commission shall aid the secretary of the council.

"ART. 24. Between the 29th of April and the 5th of May the superior council divides the total number of awards among the different groups. The council, if deemed necessary to increase the number of medals, may propose to the Imperial Commission to apply 50,000 francs for that purpose out of the sum for the grand prizes and silver sets. These duties of the superior council must be concluded by the 5th of May at the latest.

"ART. 25. A report on the exhibition of agricultural and industrial products shall be published under the direction and care of a committee proposed by the superior council and appointed by the Imperial Commission.

"ART. 26. Between the 6th and 12th of May each group jury mentioned in article twenty-one shall divide the awards fixed by the superior council among the proper classes. The result of this labor shall be sent to the Commissioner General by the 14th of May at the latest.

"ART. 27. During the Exposition the Imperial Commission will name

temporary associates every fifteen days, to aid the class juries in their examinations of the products, processes or instruments of labor in Classes 67 to 88 presented for competition in the next two weeks. These associates are chosen from the lists made out by article twenty-two. On the second day of each fortnight each temporary committee will class the exhibitors, assistants, and workmen it thinks worthy of prizes, and arrange them in four lists, under the titles, first prize, second prize, third prize, honorable mention, of partial competition. That list may be made public at once.

“ART. 28. Between the 15th and 20th of October the group juries of Groups VII, VIII, and IX, after the arrangement of prizes and honorable mentions of the temporary committees, in conformity with the preceding article, shall make a total list of exhibitors for each class, as well as a list of assistants and laborers, and will award the prizes the superior council has assigned to them. The diploma has a list of the prizes and honorable mentions of the different temporary committees to the laureate during the Exposition.

“ART. 29. Class juries of Classes 52 and 95 shall present the proposals relative to awards which the group jury has reserved for them to the Imperial Commission by the 20th of October. The Imperial Commission confirms these proposals.

“TITLE FOURTH.—NEW ORDER OF AWARDS.

“ART. 30. A different order of awards is created in favor of persons, establishments, or localities, where, by special institutions, good harmony has been promoted among those who carry on the same labors, and the material, moral, and intellectual well-being has been secured among the operatives. These awards are: ten prizes of 100,000 francs and twenty honorable mentions. One grand prize of 100,000 francs may be given to the person, establishment, or locality, above all the rest in this respect.

“ART. 31. A special jury shall judge of the merits in this case, and determine the number and form of the prizes to be awarded. One of the vice-presidents of the Imperial Commission shall preside over it. The members shall be twenty-five, the president included. The distribution among different nations is fixed in table B. The functions of secretary shall be performed by the secretary of the Imperial Commission.

“ART. 32. In default of nominations before the 1st of December, 1866, as provided by article 3, the Imperial Commission will select foreign judges from among the persons accredited to it by the different governments.

“ART. 33. The number of members present necessary to make the jury decision valid is fixed at eighteen. The prizes and honorable mentions are decided by a majority vote. The grand prize must have a vote of two-thirds.

“ART. 34. The petitions and documents designating a person for the

new order of awards, or an establishment or locality, must be addressed to the councillor of state, Commissioner General, before the 1st of December, 1866.

"ART. 35. The jury will hold its first session the 1st of December, 1866, to fix the rules for demands and to begin their examination.

"ART. 36. At a second and last session, between the 15th of April and the 14th of May, 1867, the jury will finally fix the distribution of the prizes. These prizes will be distributed at the same time as the other prizes—that is, on the 1st of July, 1867.

"Done and deliberated by the Imperial Commission on the 7th of June, 1866."

REPORT IN SUPPORT OF THE DECREE IN REGARD TO RECOMPENSES.

Monsieur E. Rouher, minister of state, vice-president of the Imperial Commission, made a report to the Emperor, attached to the preceding decree, of which the following is a translation :

"SIRE: In the name of the Imperial Commission I have the honor to submit to your Majesty a project for a regulation of the recompenses to be awarded, according to established tradition, at the Universal Exposition for 1867.

"This regulation fixes the nature, the number, and the mode of awarding the recompenses ; it comprises four titles :

"The first title determines the general dispositions relative to the value of the recompenses and the organization of the jury.

"The second title answers to article 22 of the general regulations, and relates particularly to the group of the works of art. Its arrangement is similar to that used at the annual exhibition of the fine arts.

"Title three answers to article 62 of the general regulations, and relates especially to the nine groups of agriculture and industry. The dispositions of this title are similar to those of 1855, and tend to equalize the different degrees of recompense, to facilitate execution, and to get the jury's decision in six weeks. The limit of this delay is rigorously required by the date of the distribution of recompenses, fixed for the 1st of July, 1867. Special dispositions reserve for certain subdivisions of the jury the decision on products that are renewed often during the Exposition, but cannot be decided on till the close.

"These parts of the regulations for recompenses offer nothing new, and I confine myself to a summary. But the dispositions of title four constitute an important innovation, to which I must call your Majesty's attention.

"Preceding exhibitions have not shown all the merits that are due to agriculture and industry. The prosperity of those branches is not only shown by the good quality of the products and the improvements in their elaboration, but it also depends upon the comfortable circumstances of the producers and their friendly relations. These circumstances have been considered in preceding exhibitions, but the Imperial Commission has thought proper to create a new order of recompenses, as useful and

in conformity with the principles inspiring so many acts of the government of the Emperor. These recompenses shall be awarded to persons, establishments, or localities, where, by an organization or special institution, good harmony has been promoted among those who carry on the same work, and the material, moral, and intellectual well-being of the operatives assured.

"This well-being and harmony of which we wish to find the best examples for your Majesty, is produced under very various forms. The local customs and secular traditions in certain countries maintain union among different kinds of producers; in other regions intelligent efforts remedy the spirit of antagonism that prevails. Here, workmen who have become masters in their trades find all the elements of success in themselves; in other countries, confined to large factories, they leave all care to their patrons. Producers sometimes apply themselves exclusively to agricultural labor or to manufactures: often the two kinds of industry are combined. But, in the midst of this diversity of conditions, well-being and harmony offer the same result; they assure public peace to the producers of all kinds, and to the locality enriched by their work. Apparent characteristics everywhere prove the existence of the two merits we propose to recompense. An inquiry of the prefects of the empire, made some years ago by your Majesty's orders, gave many examples that might be quoted at the competition instituted by title four to great advantage.

"The merits of competitors will be decided by a jury composed of eminent persons belonging to the different countries represented at the Exposition. The Imperial Commission thinks this jury should reject every previous system, and found its judgment entirely on facts.

"The value of the recompenses should be proportionate to the social importance of the competition.

"The commission, therefore, proposes to your Majesty to award ten prizes of the total value of 100,000 francs, with twenty honorable mentions.

"One grand indivisible prize of 100,000 francs might also be awarded to the person or locality distinguished by extraordinary superiority. This competition opens a new branch in exhibitions; it will cause a healthy rivalry between different nations, and will offer problems that have not yet been advantageously solved.

"If your Majesty designs to approve the considerations which form the object of this report, and which is a continuation of the deliberations of the Imperial Commission of the 7th of June, 1866, I beg you will sign the annexed decree."

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THE NEW CLASS OF PRIZES.

Mr. Beckwith to Mr. Usher.

"PARIS, December 3, 1866.

"SIR: The documents issued by the Imperial Commission relating to the various classes of prizes were published by the government at Wash-

ington in June last, (3d series, page 43,) but the new class of prizes does not seem to have attracted much attention in the United States.

"The new class is nevertheless most important of all. It is not composed of the material products of industry, but relates to the source of all industrial products, viz., the producers. It is composed of the persons, establishments, or localities which have developed in a remarkable manner good order and harmony, and the material, moral, and intellectual well-being of the workmen and laborers.

"The prizes are comparatively large—ten of 10,000 francs each, and one of 100,000 francs—which indicates the importance attached to the subject.

"Material improvement precedes all other improvements, and is the source of them.

"Associations and organizations which combine the sciences and industrial arts with labor and skill, augmenting the productiveness of both in an eminent degree, and at the same time improving the condition of the laborers, are among the most important institutions of the time, and they are without parallel in any past civilization.

"This new quality is that they not only make the rich richer, but they make the poor richer—a result which was never before studied nor attained; and in place of industrial populations devoted to immorality and poverty, we have now thriving communities acquiring property and education, and rising constantly in their material, moral, and intellectual condition.

"These organizations are not the result of accident or the mere growth of time, but they are the combined product of the ablest thinkers, the best judgments, highest motives, superior science, the practical skill, and the solid knowledge of the age.

"Each country makes its own development in conformity with its condition and its wants, and the attempt to bring together the most successful of these institutions, to be carefully studied and compared by competent men, cannot fail to be instructive and useful.

"We have many industrial establishments which, properly presented, might compete successfully for the prizes; but, whether successfully or not, they could not fail to improve by the competition.

"The reports of these should contain their organization, administration, capital, number of hands of both sexes, their ages, wages, schools, libraries, churches, charities, publications, sanitary regulations, plans, marriages, births, deaths, savings and accumulations, investments, quantity and value of raw products, value and quantity of manufactured products, dividends, and, in fine, all the important facts relating to these small communities as if they were states.

"These should be tabulated and briefly and accurately stated, to facilitate the understanding of them and the comparisons.

"Similar reports will be sent in from all civilized countries, and will be submitted to the study of a special jury of twenty-five men, selected

for the purpose from the different nations, and whose labor has no connection with class juries on products.

"This jury commenced their work on the 1st December instant, and will continue it through the winter, that they may complete their reports and render their verdict in May, in time for the general distribution of prizes on the 1st July next.

"Our representative on this special duty is Charles C. Perkins, esq., of Boston, a gentleman whose cultivation, general knowledge, studious habits, and acquaintance with continental languages, qualify him for the labor, and whose circumstances permit him to devote the requisite time to it.

"The reports, in conformity with the regulations, should all have been sent in by the 1st of December; but the jury resolved at their first meeting to remain open a short time longer, and will probably fix the last day for receiving reports at their next meeting, of which I will notify you. If this subject appears to you of sufficient interest to call for your exertions, be assured that any reports which you may send me, if received in time, will be clearly and amply developed to the jury by Mr. Perkins, and receive the consideration they may merit; but I need not dwell on the necessity of immediate action."

APPOINTMENT OF JURORS TO THE UNITED STATES.

Mr. Beckwith to Mr. Seward.

"PARIS, April 8, 1867.

"SIR: It was not in my power to report definitively on the nomination of jurors before the 26th March, when the list was completed and closed.

"The number of class jurors is six hundred, who are divided among nationalities on the basis of the relative space occupied by each nation in the Palace of the Exposition.

"The apportionment was made in June, 1866, (reserving fifteen jurors for subsequent distribution,) and the number which this method gave to the United States was eight.

"I applied for an increase of this number, and, of the fifteen reserved, four were subsequently added to our list, which gave us twelve class jurors.

"The juries are international (or mixed) and each jury comprises from four to fifteen members. There are ninety-four classes of products, and ninety-four separate juries, consequently there are eighty-two classes on which we have no jurymen, our number being but twelve.

"Jurymen are presumed to be acquainted with the products of their own country in general, and to have a special knowledge of the products of the class on which they are placed, the chief service they can render being to make known to their associate jurymen the nature, quality, uses, and importance of these particular products, that they may be rightly appreciated and compared, and accurately judged.

"The most important products of nearly all competing nations fall into a few classes, and there is naturally great urgency among all to place their jurymen on these important classes, but this being impracticable there must be some disappointments.

"The Imperial Commission desired each foreign commission to send in a list indicating the classes on which they would prefer to place their jurymen, or else the order of preference, but stating at the same time that these indications could only be taken in a general sense as a guide in making allotments, and that it would doubtless be impossible to fully comply with them.

"Some of the important classes on which I desired to place jurors were conceded to me, some equally or more important were not conceded, and three or four classes were assigned to me which I did not ask for and which are of no particular value to us.

"A similar result occurred to others, and the distribution of classes on the whole produced among the foreign commissions a great deal of dissatisfaction, but I think I should add that in my opinion this could not have been altogether avoided.

"Mr. Derby was diligent in sending me early information in respect of the persons who were qualified to act as jurors, who were willing to do so, and who would be here in time.

"But unfortunately very few of the gentlemen thus indicated considered themselves particularly qualified for the classes which were finally assigned to us, and I have had much difficulty in making up a list of qualified jurors who could be relied on to be present in time for the work. Indeed, I have been obliged to nominate some for classes which they themselves did not wish to accept, but consented to do so because they saw that it was impossible for me to do better.

"The following is the definitive list:

"Group I, Classes 1 and 2 united: Paintings in oil, water colors, pastels, and designs—J. W. Hoppin, esq., New York.

"Group I, Class 3: Sculptures, bas reliefs, medallions, cameos, engraved stones, &c.—Hon. J. P. Kennedy, Baltimore, United States Commissioner.

"Group I, Class 4: Architecture and architectural designs.—R. M. Hunt, esq., New York, architect.

"Group I, Class 5: Engravings, polychromes, lithographs, crayons, &c.—Frank Leslie, esq., New York, United States Commissioner.

"Group II, Class 9: Proofs and materials for photography on paper, glass, wood, cloth, enamel, &c., instruments, materials, &c.—W. A. Adams, esq., Ohio, United States Commissioner.

"Group II, Class 11: Apparatus and instruments of the medical art, trusses, surgical instruments specially adapted to the army and the navy, &c.—J. R. Freese, esq., New Jersey, United States Commissioner.

"Group II, Class 12: F. A. P. Barnard, LL. D., New York, United States Commissioner.

"Group III, Class 20: Various kinds of fine cutlery—William Slade, esq., Ohio, United States Commissioner.

"Group VI, Class 51: Materials of chemistry, pharmacy, tanning, of glass, gas, &c.—Professor J. P. Lesley, Pennsylvania, United States Commissioner.

"Group VI, Class 59: Motors, generators, shafts, pulleys, steam-pipes, &c.—Ch. R. Goodwin, esq., Boston, United States Commissioner.

"Group VI, Class 54: Machine tools and mechanical apparatus in general; planing machines for iron and wood; elevators, pumps, machines, and tools of all sorts worked by steam, gas, water, &c.—J. E. Holmes, esq., New Hampshire, now residing in England; associate juror in this class with Mr. Holmes, Mr. Debauvais, machinist, of New York.

"Group VI, Class 57: Machines of all kinds for sewing, embroidery, &c., in cloth, stuffs, and leather; tacking, pegging, nailing machines, &c.—H. Q. d'Aligny, esq., Michigan, United States Commissioner.

"One special juror on the new order of prizes—Charles C. Perkins, esq., of Boston.

"One vice-president of Group V, comprising minerals and raw products of many kinds—Professor J. Lawrence Smith, Kentucky, United States Commissioner.

"Fourteen in all on the jury list.

"It will be observed that we have no class jurors on agricultural machines, nor on agricultural products, &c., where I was extremely anxious to have them. I should have been much gratified if I could have transferred three jurors from Group I to Groups V and VII. Failing to obtain from the Imperial Commission an allotment on these classes, I endeavored to effect an exchange by negotiation with other commissions, (which is permitted,) but found none who were not more tenacious of the classes I desired to obtain than desirous of the classes I wished to relinquish, and I could not effect the exchange.

"I repeat, therefore, that I am not satisfied with the distribution; but this feeling prevails in general, and I must acknowledge the evident desire of the Imperial Commission to be fair and impartial, and to give satisfaction as far as possible in a matter wherein the complete satisfaction of each commissioner, in conformity with his own judgment and wishes, was impossible.

"It is possible, also, that I exaggerate the importance which properly belongs to this subject, being influenced, perhaps, more by feeling than by judgment. I have witnessed the efforts of the foreign commissions to obtain the services of competent and skillful men for jurors, and most of them being near their own countries, with great facilities of communication, they have been able to assemble a body of able and experienced men for each class of products, whose investigations, it is impossible to doubt, will be thorough, and their verdict impartial and sound."

WORK OF CLASS JURIES.

*Mr. Beckwith to Mr. Seward.**"PARIS, May 17, 1867.*

"SIR: I had the honor to address you on the 3d of April, with a brief statement of the condition of our section of the Exposition at the opening, and suggested that fully a month would be required to complete it, which estimate was nearly correct.

"The work of the class juries commenced on the 2d of April, and was continued daily till completed.

"The necessity of getting the packages all opened, and the products in a condition to be examined by the juries, is obvious. For this purpose I employed a force as numerous as could work to advantage. The juries being also numerous, ninety-four in number, (counting six hundred members,) their visits were incessant in different classes and different parts of the section, and the necessity of attending to them delayed the work of placing the products, it being more important to bring them under the inspection of the juries while it was possible, and to complete the final placing with more care afterward.

"The number of our exhibitors is from seven hundred to eight hundred, and it is remarkable that up to this date only sixty-four exhibitors have appeared, and ninety-six agents; and many of the agents being parties residing in Paris, take little interest in the business with which they are charged, and pay little or no attention to it. It is usual for exhibitors to be present with their products in person, or by agents who understand the products, and whose business and interest it is to make known their qualities to the juries, that they may receive proper appreciation. But the absence of exhibitors, and absence of substitutes provided by them, left the jury-work in a great measure to me; and considering it of great moment to the exhibitors, absent as well as present, I made the fullest provision for it in my power, and gave my whole attention to it while it lasted.

"Our products have therefore been well brought to the notice of the juries; their reports, when published, will show this, and show also, I think, that they have been fairly and intelligently appreciated.

"But exhibitors are anxious in presence of jurors; each is conscious of the value of his particular products, and naturally apprehensive that time enough will not be given to them. It seldom happens indeed that jurors spend as much time on a single exhibit as the exhibitor desires. The jurymen are chiefly experts, and do not require, or think they do not, as much time for accurate appreciations of products as the producer may think necessary. It also occurs frequently that the exhibitor or agent is not present, and cannot be found when the jury comes to his class, and the work goes on without him.

"This is unsatisfactory, and leads to numerous reclamations, to which the juries have been in general attentive and accommodating; but in

most of the numerous cases of recall which I have had occasion to make, they have proved to be of small importance beyond satisfying the exhibitor, the juries having shown generally that their work had been properly done; and I conclude my remarks on this laborious part of the work with an expression of confidence that the result will prove satisfactory."

THE DISTRIBUTION OF PRIZES.

Mr. Beckwith to Mr. Seward.

"PARIS, July 2, 1867.

"The promulgation of the awards and distribution of medals, which is the principal event of the Exposition, took place yesterday in the Palais de l'Industrie, in the presence of an audience composed of all nations, and numbering about seventeen thousand persons.

"The awards to our exhibitors were mentioned in my letter of the 28th ultimo, and are now published in detail by the Imperial Commission, and copied generally in the daily journals.

"The proclamation of the awards was made the occasion of a brilliant and imposing pageant, but the event was suggestive of more grave and important considerations.

"Formerly the dignity, wealth, and fashion of surrounding nations met on the plains of France, 'in tents of cloth of gold,' to honor arms by mimic war and feats of personal prowess in the tournament; but at that period toil was remitted to serfs, and labor was degraded. •

"To-day the civilized world assembles on the same ground to do honor to labor.

"We have been accustomed to read with admiration, real or romantic, the accounts of the fêtes of the Celestial Empire, where the ruler condescends annually to hold the plow in honor of husbandry. Yesterday an assembly of all nationalities, numbering seventeen thousand persons, including rulers, peasants, and every class, put their hand to the plow, and did homage to labor, skill, and science, which are the bases of civilization and progress.

"The participation of the people of the United States in this great competition, and the rank which the products of their industry hold, as determined by the deliberate judgment of ninety-four international juries who have decreed awards to more than one-half of our exhibitors, justify expressions of cordial congratulation and satisfaction."

HONORARY DISTINCTIONS.

Mr. Beckwith to Mr. Seward.

"PARIS, July 5, 1867.

"SIR: The volumes containing the official report of awards to exhibitors should have been published by the Imperial Commission on the 1st

of July, but I am not yet able to send it to you, as it is still in the press.

"I intended also to allude more fully to the *grand prix* awarded to Mr. Hughes, to Mr. Cyrus W. Field, to the Sanitary Commission, and the *prix* (equivalent to a *grand prix*) to M. Chapin, in the new Order of Recompenses; but wishing to state, in the language of the report, the grounds of the awards, I am compelled to await its publication.

"I have now to report the honorary distinctions, in connection with the Exposition, conferred by the government on the following persons :

- Mr. ELIAS HOWE, JR.: - Inventor of the sewing machine, and founder of the great and important industry represented by that machine.
- Mr. CHICKERING: - - A respectable house of long-standing and importance, continuing from father to son, which, by ability and great study to improve their work, have contributed to raise the standard of this class of products to a high level in the United States.
- Mr. MULAT: - - - - Architect and engineer in the United States Section of the Exposition.
- Mr. J. P. KENNEDY: - - United States Commissioner and member of the International Jury, Group I, Class 3.
- Mr. J. LAWRENCE SMITH: United States Commissioner and vice-president of Jury for Group V.
- Mr. S. B. RUGGLES: - - United States Commissioner and member of the committee on weights, coins, and measures.
- Mr. C. C. PERKINS: - - Member of the special jury on the new Order of Recompenses.
- Mr. C. R. GOODWIN: - - United States Commissioner, machinist, and member of the jury, Group VI, Class 52.
- Mr. ROBERT BERNEY: - - United States Commissioner.

"To the preceding, the honorary distinction of 'Chevalier de la légion d'honneur.' To:

Mr. N. M. BECKWITH, Commissioner General, the honorary distinction of 'Officier de la légion d'honneur.'

"The honorary distinctions above named have been received subject to the laws of the United States, which may be applicable to them and to the action of the government and Congress.

"A membership of the Legion of Honor is not a title of any kind, or a name by which men are called, but it confers the distinction which attaches to the membership of a numerous and respectable association, as a membership of the Institute or of the Royal Society.

"I am not aware, therefore, whether clause 7, section 9, of the Constitution, is applicable to it, or whether Congress has ever considered the subject and decided it.

"But I desire for my guidance (and in this I doubt not of the cordial concurrence of my associates) an expression of opinion from the government in regard to the propriety of accepting this distinction; and if not otherwise directed, I shall embrace an early opportunity of soliciting the action of Congress on the subject.

"The Exposition is international; its aims and effects, both national and moral, are international; its courtesies are international; and the services connected with it are necessarily in the same spirit.

"The awards, therefore, to be appropriate, should be of the same international character; and if the government and Congress approve the acceptance of these distinctions, they will thus impart to them the element which is requisite to complete their proper character and value."

EXHIBITION OF THE MEDALS AND DIPLOMAS AWARDED TO THE
UNITED STATES EXHIBITORS.

Mr. Beckwith to Mr. Seward.

"PARIS, November 18, 1867.

"The great number of awards, and the preparation of the stamps for imprinting the name of each person on his medal as well as on his diploma, protracts the labor, and though the delivery of awards has commenced, it is not likely to be completed before February or March.

"Many of our successful exhibitors have not visited the Exposition, and of those who have done so most of them have now returned to the United States.

"It will be necessary, therefore, for me to transmit the awards, when received, to the government or its agents for right delivery, and in doing this I beg to suggest, for your consideration, the utility and expediency of an exhibition of the awards at the seat of government for a limited time before their final distribution.

"The collection of medals and diplomas thus exposed will make a visible display of some of the results of the Exposition, which, I think, cannot fail to be gratifying to the government and to Congress, and beneficial to the exhibitors and to the country.

"In making this suggestion I assume that the recipients of awards will be pleased with this course, which I infer from the nature of the proposal and from the uniform opinion of those with whom I have spoken on this subject.

"The additional expenditure required will be small, and will be kept within the limits of the appropriations already made for the exhibition.

"I venture to hope, therefore, that you may consider an exposition of the trophies a becoming and appropriate method of concluding a competitive international exhibition of the products of industry, and that you will be willing to assent to the proposal."

PRIZES FOR REAPING AND MOWING MACHINES.

Mr. Beckwith to Mr. Seward.

"PARIS, January 6, 1868.

"The adjustments of awards and delays in their distribution have prevented me from sending you a complete list showing the final result, and I am still unable to do so, the work being not yet completely finished.

"A distribution of awards was made by his Imperial Majesty yesterday, in the palace of the Tuileries, to the successful exhibitors in Groups VIII and IX, which, with previous additions and adjustments, will increase the number in the United States Section, reported in the letter which I had the honor of addressing to you on the 24th June last, from two hundred and sixty-two to two hundred and ninety-one.

"The superiority of the reaping machines of Mr. McCormick, and the mowing machines of Mr. Walter A. Wood, over all others exhibited, established by repeated experiments in the field during the season, together with the acknowledged importance and great utility of those machines, have secured for Mr. McCormick, from the International Jury, a *grand prix*; to Mr. W. A. Wood a gold medal and an object of art; and from the Emperor, to each of those gentlemen, the cross of the Legion of Honor."

CONDITION OF THE INDUSTRIAL ARTS INDICATED BY THE AWARDS.

Mr. Beckwith to Mr. Seward.

"PARIS, January 21, 1868.

* * * * *

"I beg to solicit your attention to the tabular statement alluded to on page 6 of the preface,¹ as expressing briefly the opinion of six hundred international jurors, in a form that indicates the relative condition of the mechanical, manufacturing, and industrial arts and productive industries in the principal countries of the world, so far as that can be determined by an inquest of competent jurors. The table has been made with care and accuracy, and I believe is reliable.

"That the products of England should recede to the position of eighth on the list, is a conclusion that perhaps will not be readily accepted.

"But it is widely known that great changes have been going on since the first exhibition in 1851.

"England, it was admitted, excelled especially in machinery and in nearly every department of the working of metals.

"But her methods, her forms, and her models have been adopted and reproduced in many countries on the continent, and it is now contended that the better provision in the latter for industrial, mechanical, and scientific education supplies a greater number of superior producers,

¹ Vide preface to the "General Survey of the Exposition."

and that English models and methods have been perfected and carried beyond the originals.

"These observations are not limited to the metallic department, but are applied also to woolen fabrics and to nearly all the higher manufactures of cotton, while the supremacy in silks, linens, designs, dyes, and finish was already continental.

"It is also remarked that the principal progress in English products is in the department of pottery, in which she has adopted continental forms, colors, and designs, and improved her work, but content with her great aggregate production and great commerce, has generally remained stationary in regard to quality, while others have advanced; and that this change was strikingly visible in the exhibition of 1862, in which England was no longer in advance, and hardly maintained her level, having now distinctly fallen behind.

"It is also remarked, in addition, that while these relative changes and equalizations of the industrial arts have been going on, there has not been much invention, but that progress is chiefly noticeable in the perfecting of previous inventions, designs, and methods, and that for any new combinations which are creative and striking it is necessary to look to the other side of the Atlantic; that the great revolutions going on in war ships, guns, and small arms, and the remodeling of navies and armies are of American origin, and that the American Section of the Exposition was more fertile than any other in the original, the inventive, the peculiar, and the new.

"I need not express any opinion as to the accuracy or inaccuracy of these general views, but I reproduce them because I have heard them expressed during the Exposition by many Europeans connected with it and largely engaged themselves in manufactures and industry, and because these opinions appear to correspond in a general sense with the table of results to which I invited your attention.

"But admitting the accuracy of these indications, the value of them might be readily over-estimated.

"In an international competition many of the products exposed are made for show, and their qualities are in some degree meretricious. If the products of England, under these circumstances, take the position suggested by the awards, it does not follow that she has not preserved the medium of practical sense, and that her products are not best adapted to the wants, the means, and the consumption of the mass of mankind, on which her great commerce is based."

COMMISSION OF THE UNITED STATES.

JOINT RESOLUTION IN RELATION TO THE INDUSTRIAL EXPOSITION AT
PARIS, FRANCE.

"Whereas the United States have been invited by the government of France to take part in a Universal Exposition of the productions of agri-

culture, manufactures, and the fine arts, to be held in Paris, France, in the year eighteen hundred and sixty-seven: Therefore,

"Be it resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That said invitation is accepted.

"SEC. 2. And be it further resolved, That the proceedings heretofore adopted by the Secretary of State in relation to the said Exposition, as set forth in his report and accompanying documents concerning that subject, transmitted to both houses of Congress with the President's message of the eleventh instant, are approved.

"SEC. 3. And be it further resolved, That the general agent for the said Exposition at New York be authorized to employ such clerks as may be necessary to enable him to fulfill the requirements of the regulations of the Imperial Commission, not to exceed four in number, one of whom shall receive compensation at the rate of eighteen hundred dollars per annum, one at sixteen hundred dollars, and two at fourteen hundred dollars.

"SEC. 4. And be it further resolved, That the Secretary of State be, and is hereby, authorized and requested to prescribe such general regulations concerning the conduct of the business relating to the part to be taken by the United States in the Exposition as may be proper.

"Approved January 15, 1866."

The sixth portion of the first section of the joint resolution approved July 5, 1866, provided "for the traveling expenses of ten professional and scientific commissioners, to be appointed by the President, by and with the advice and consent of the Senate, at the rate of one thousand dollars each—ten thousand dollars—it being understood that the President may appoint additional commissioners, not exceeding twenty in number, whose expenses shall not be paid; but no person interested, directly or indirectly, in any article exhibited shall be a commissioner; nor shall any member of Congress, or any person holding an appointment or office of honor or trust under the United States be appointed a commissioner, agent, or officer under this resolution."

The following is that part of the supplementary joint resolution approved March 12, 1867, which provided for the appointment of twenty honorary commissioners:

"Resolved by the Senate and House of Representatives of the United States of America in Congress assembled,

"I. That the Commission of the United States at the Universal Exposition to be held at Paris in the year eighteen hundred and sixty-seven shall consist of the Commissioner General and honorary commissioner, whose appointment was approved by the joint resolution of January twenty-two, eighteen hundred and sixty-six; also of the thirty commissioners whose appointment was provided for by the joint resolution of July five, eighteen hundred and sixty-six; and of twenty commissioners, whose appointment is hereinafter provided for.

"II. That the Commissioner General shall be the president of the commission thus constituted, with a vote on all questions that may arise.

"III. That the commission shall meet at Paris as early as possible before the opening of the Exposition, upon the call of the Commissioner General, and, when properly organized, shall make such rules and regulations as may be necessary for efficient action, with power to elect a vice-president from their own number, who, in the absence of the Commissioner General, shall preside at all meetings of the commission, and to appoint committees and chairmen of groups.

"IV. That the commission may designate additional persons, not exceeding twenty in number, being citizens of the United States, known to be skilled in any branch of industry or art, who are hereby authorized to attend the Exposition in behalf of the United States as honorary commissioners without compensation.

"V. That the commission may employ a secretary and clerks for the commission, the necessary scientific assistants and draughtsmen, and may engage suitable rooms for the commission.

"VI. That no commissioner shall act as agent for the show or sale of any article at the Exposition, or be interested, directly or indirectly, in any profits from any such article."

LETTERS OF APPOINTMENT TO COMMISSIONERS.

Letters were addressed by the Secretary of State in the following form to the gentlemen appointed as commissioners, and to the ten professional and scientific commissioners:

To Commissioners without compensation.

"DEPARTMENT OF STATE,
"Washington, ———, 1866.

"SIR: The joint resolution approved on the 5th of July, 1866, a copy of which is annexed, authorizes the President to appoint twenty commissioners, who shall serve without compensation, to attend, on behalf of the United States, the Universal Exposition to be held at Paris, France, in the year 1867, commencing on the 1st of April, and closing on the 31st of October, in that year.

"These appointments are intended as honorary distinctions for gentlemen who are eminent for their patriotism and for scientific or professional attainments, or familiarity with some special branch of industry, and whose means enable them to serve gratuitously. Persons so appointed are required to aid the Commissioner General and the Scientific Reporting Commission in accumulating and arranging valuable information at the Exposition, in conformity with such regulations as may be prescribed by this Department.

"The President directs me to offer to you an appointment as one of the twenty commissioners thus authorized, provided you are not interested, directly or indirectly, in any article to be exhibited at the Expo-

sition, and shall not, during your service as such commissioner, hold any other appointment or office of honor or trust under the United States.

"You are requested to reply to this letter at your earliest convenience, and, should you accept the appointment, to inform me of the place of your birth.

To scientific and professional commissioners.

"DEPARTMENT OF STATE,
Washington, ———, 1866.

"SIR: The President directs me to offer you an appointment as one of the ten scientific and professional commissioners of the United States to the Paris Universal Exposition, mentioned in sixth clause of the first section of the joint resolution of the 5th of July, 1866, a copy of which is annexed, provided that you are not interested, directly or indirectly, in any article to be exhibited at the Exposition, and that you shall hold no other appointment or office of honor or trust under the United States during your term of service as said commissioner.

"In the event of your appointment you will be required to attend the Exposition during the period for which it shall remain open, and to co-operate with the Commissioner General in the preparation of reports upon it, in conformity with such regulations as may be prescribed by this Department. You will be allowed for the payment of traveling expenses the sum of one thousand dollars, which is the only allowance or compensation provided by law.

"You are requested to reply to this letter at your earliest convenience, and, should you accept the appointment, to inform me of the place of your birth.

Instructions to commissioners.

"DEPARTMENT OF STATE,
"Washington, ———, 1867.

"SIR: I inclose, for your information, a copy of the several joint resolutions relating to the participation of the United States in the Paris Universal Exposition of 1867. Pursuant to the third clause of the first section of the resolution approved on the 12th instant, the commissioners are required to meet at Paris as early as possible before the opening of the Exposition, upon the call of the Commissioner General. As that resolution was not passed and approved until the 12th instant, sufficient time is not allowed for the transmission of a copy to the Commissioner General, and the issue of a call by him for the assembling of the commissioners at Paris, which would enable them to reach that capital before the opening of the Exposition, the date appointed for which is the 1st of April next.

"It is important that as full and as early a meeting as possible of the commission at Paris shall be held; and I therefore, on behalf of the

Commissioner General, request your attendance at that city at your earliest convenience, and in accordance with the regulations issued by this Department on the 20th of August last, under the authority of the joint resolution approved on the 15th of January, 1866, a copy of which regulations has already been forwarded to you.

REGULATIONS ISSUED BY THE DEPARTMENT.

The annexed is a copy of the regulations for the guidance of officers of the United States connected with the Paris Universal Exposition of 1867, issued by the Secretary of State:

“CHAPTER I.—The commissioners will make a report presenting a brief general survey of the Exposition, and a similar report upon the character and condition of the American exhibition.

“They will make special reports upon inventions, and upon the various products displayed which are most advanced in the sciences, in the arts, and in industry, giving a practical description of the methods and processes connected with such products.

“Similar reports will be made upon mineral and agricultural products of importance, and upon raw materials and manufactures of great general use, or displaying remarkable skill and merit; upon implements, machines, tools; on metallurgy, and the extractive arts in general; on the products of chemistry, and the preparations of food and clothing; and on any other subject connected with the Exposition, and relating to the material, moral, and intellectual well-being of the nation.

“To accomplish this work the commissioners will proceed as follows:

“First. On or before the opening of the Exposition, 1st April, 1867, they will assemble in Paris, and meet for the purpose of organization, at which meeting the Commissioner General will preside.

“Second. The commissioners will then constitute themselves a committee, and proceed to elect a presiding officer and secretary for committee meetings, which will be held as often as in their opinion the work may require.

“Third. At these meetings the committee will decide, from time to time, on the subject for special reports, and designate the persons who will undertake the investigation and studies each report will require.

“Fourth. Each report will be made on the responsibility of the person charged with it, and he will sign his name to it.

“Fifth. The commissioners who may be nominated on international juries will perform that service.

“Sixth. There will be regular meetings of the whole commission as often as once a month, at which meetings the Commissioner General will preside.

“Seventh. The committee will report at these meetings the progress made, and the reports which have been completed will be read to the meeting by their authors, and then delivered to the Commissioner Gen-

eral for transmission to the Department of State, (or disposed of as the Department may direct.)

"Eighth. The meeting shall not be competent to reject any report; but observations may be made on each report by any commissioner, and he may reduce his remarks to writing and send them with the report, if he so desire. It will be in order to decide upon subjects for special reports at the general meetings, as well as in meetings in committee.

"Ninth. The Commissioner General is entitled to call upon the members of the commission for their advice and assistance in his department. Their assistance so given will be voluntary, and their counsel advisory.

"Tenth. A brief record of the proceedings of the general meetings will be kept for transmission to this Department.

"CHAPTER II. The Commissioner General is charged with the supervision and management of the exhibition.

"He will receive the products on their arrival in France and place them for exhibition, and he will conduct the exhibition in conformity with the regulations of the Imperial Commission.

"The employés, whether paid by him or by exhibitors, and all persons engaged in explaining or exhibiting products, or occupied on the premises, will be under his direction; also the application of motive force to machinery.

"First. The 'over-head gear,' straps, pulleys, &c., for machinery in action, together with the materials and laborers for working the machinery and keeping it in order, will be at the expense of the owners of the machines.

"Second. The Commissioner General will provide laborers for keeping the apartments in order, linguists for explanations, and subsidiary police or guards for the protection of property and preservation of order; the number of persons to be so employed is left to his judgment, he having regard to the necessities and to the funds for this purpose placed at his disposal. Exhibitors may introduce employés in connection with their products, at their own expense, but they shall not so introduce them without the consent of the Commissioner General, and such employés will be under his direction.

"Third. The government will not be responsible for damages, thefts, or destruction of property, and insurance against all contingent risks to property, either in the Exposition or *in transitu*, is left to the care and cost of the owners respectively.

"Fourth. With the closing of the Exposition in conformity with the regulations of the Imperial Commission, the government control and charge of the property will cease, and the Commissioner General will deliver the products to the order of the respective owners, who will receipt for them; which delivery will be made at the place of exhibition. Property not applied for and removed by the owners within the period fixed by the regulations of the Imperial Commission for that purpose

will be at the risk of the owners, and subject to the charges which may accrue upon it.

"Fifth. The Commissioner General will be responsible for the public money placed at his disposal, and will render the accounts of his expenditures to this Department, in conformity with the act of Congress."

MEETINGS OF THE COMMISSION.

Mr. Beckwith to Mr. Seward.

"PARIS April 12, 1867.

"I have the honor to report that a meeting of the United States Commissioners to the Paris Exposition was called by me at this office, in conformity with the act of Congress, on the 29th March, and that the following commissioners were present: Messrs. Ruggles, Evans, D'Aligny, F. Leslie, Slade, Seymour, Kennedy, Goodwin, J. P. Lesley, Berney, Norton, Smith, Valentine, Beckwith—14.

"The Commissioner General presided. William Slade, esq., was requested to act as secretary pro tempore, and business was commenced by the reading of the acts of Congress and the regulations of the Secretary of State constituting the commission and directing its organization and its labors.

"The meeting then proceeded to the election of a vice-president, which resulted in the unanimous choice of S. B. Ruggles, esq., to that office. Committees were appointed on by-laws and on the selection of suitable rooms for the regular meetings of the commission, whereupon the meeting adjourned to the following Tuesday, 2d of April, at 2 o'clock.

"Several meetings have since been held, which were occupied chiefly with discussions on the appointment of committees, the choice of new members, and other measures, which have not yet resulted in completing the organization of the commission for work.

"I append hereto a list of the commissioners who have arrived since the first meeting, and a list of those still absent:

"Since arrived.—Messrs. Barnard, Budd, Mudge, Stevens—4.

"Still absent.—Messrs. Bowen, Hewitt, Stewart, Freese, Adams, Jones, Archer, McIlvaine, Winchester, Leathermann, Garrison, Sweat, Leconte—13."

ATTENDANCE OF COMMISSIONERS.

Mr. Beckwith to Mr. Seward.

"PARIS, December 11, 1867.

"I have the honor to inclose herewith a list of the names of the commissioners appointed by the government, who have been present in Paris at any time during the Exposition; a list of the honorary commissioners elected by the previous commissioners, with the dates of their election, and explanatory remarks; and a tabular statement showing the number

and dates of the sessions held by the commission, with a record of the attendance of each member.

"I transmit also to your address a volume containing the minutes of the proceedings of the commission, recorded by the secretary of the commission, Mr. L. F. Mellen.

"List of commissioners appointed by the government who have been present at any time during the Exposition.—Messrs. Slade, Evans, Norton, Stevens, Kennedy, Ruggles, Bowen, Berney, D'Aligny, Barnard, Seymour, Freese, Goodwin, Mudge, F. Leslie, Budd, Valentine, Smith, Hewitt, J. P. Lesley, Garrison, Stewart, Beckwith, Archer.

"List of honorary commissioners elected under the joint resolution of Congress of the 12th March, 1867.—Messrs. Elliot C. Cowdin, of New York, elected 29th April; George S. Hazard, of Buffalo, elected 29th April; W. S. Auchincloss, of New York, elected 6th May; William J. Flagg, of Ohio, elected 9th May; Alexander Thompson, of New York, elected 9th May; Professor William B. Rogers, of Boston, elected 9th May, (declined to accept;) Professor S. F. B. Morse, of New York, elected 9th May; Professor J. T. Frazer, of Philadelphia, elected 9th May; Messrs. B. F. Nourse, of Boston, elected 9th May, (resigned;) L. F. Mellen, of Alabama, elected 9th May; M. P. Wilder, of Boston, elected 9th May; J. P. Reynolds, of Illinois, elected 13th May; J. H. Chadwick, of Massachusetts, elected 26th May; Thomas McElrath, of New York, elected 8th June; Patrick Barry, of Rochester, elected 6th July; William E. Johnston, M. D., of Paris, elected 13th July; Professor J. W. Hoyt, of Wisconsin, elected 10th August."

Record of sessions and attendance of each member.

Names of commis- sioners.	March 29.	April 2.	April 3.	April 10.	April 15.	April 22.	April 29.	May 6.	May 9.	May 13.	May 20.	May 26.	June 8.	July 6.	July 13.	August 10.	September 5.	October 4.	October 7.	October 8.	October 10.	October 14.	October 18.	October 21.	October 23.	October 25.	October 28.	October 29.	October 30.	October 31.	Attendances of each commiss r.	
Beckwith	1	1	1	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	..	1	1	1	1	1	1	1	1	1	28	
Slade	1	1	1	1	1	1	1	..	1	1	..	1	..	1	1	1	..	1	1	..	1	1	1	1	1	1	1	1	1	..	1	23
Evans	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	22
Mellen .....	..	1	1	1	1	1	1	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
Norton	1	1	1	1	1	1	1	1	1	1	1	..	1	..	1	1	..	1	1	1	1	1	1	1	..	1	1	1	1	1	1	21
Stevens .....	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	..	..	1	1	1	1	1	1	1	1	1	19
Kennedy	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	..	..	..	1	1	..	1	1	1	1	1	1	1	1	1	1	16
Ruggles	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	16
Bowen .....	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
Barnard	1	1	1	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	..	1	1	1	1	1	1	1	15
D'Aligny	1	1	1	1	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
Berney	1	1	1	..	1	1	1	1	1	1	1	1	..	1	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
Seymour	1	1	1	1	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	12
Morse .....	..	..	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11
Freese .....	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11
Goodwin	1	1	1	..	1	1	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10
Mudge .....	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10
Thompson .....	..	..	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9
Leslie, F.	1	1	1	1	1	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8
Budd .....	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8
Johnson	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7
Valentine	1	1	..	1	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7
Smith	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6
Flagg .....	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6
Hewitt .....	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6
Lesley, J. P.	1	1	..	1	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5
Auchincloss ..	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5
Wilder	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4
Reynolds .....	..	..	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4
Hazard .....	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Stewart .....	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Cowdin .....	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Garrison .....	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Nourse .....	..	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Archer .....	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chadwick .....	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Frazer .....	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Barry .....	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
McElrath .....	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hoyt .....	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total*	13	17	14	12	13	11	10	13	15	18	18	13	19	22	11	12	6	11	11	6	7	8	7	9	7	9	14	14	10	16	....

* The total number of meetings was thirty.

CLOSE OF THE EXPOSITION AND DELIVERY OF OBJECTS.

Mr. Beckwith to Mr. Seward.

"PARIS, November 2, 1867.

"The circumstances attending the close of the Exposition were as follows:

"On the 29th October the Imperial Commission published in the *Moniteur* the notice hereto annexed, to the effect that the rumors of

a prolongation were unfounded, and that the Exposition would be definitively closed on the 31st October.

"On the same day letters were addressed by the Imperial Commission to the foreign commissioners, inviting them to a conference with the Imperial Commission on the 30th.

"The conference was presided over by the minister of state, assisted by the two vice-presidents, the minister of commerce and public works, and the minister of the Emperor's household.

"The minister of state informed the meeting that the applications for the prolongation of the Exposition for two weeks, from sources entitled to great respect, had become so numerous and pressing, that he thought it his duty to consult the foreign commissioners on the subject, hoping to find their views in accord with the public wishes, and suggesting that if the continuation of the Exposition for so long a period was not thought advisable, perhaps a shorter period might be agreed upon, and a portion of the proceeds during that time applied to public charities.

"A brief discussion followed, in which several members of the Imperial Commission and several of the foreign commissioners expressed their views. At this point the foreign commissioners desired permission, which was granted, to retire and deliberate by themselves and report the result of their deliberation to the Imperial Commission.

"The great majority of foreign commissioners, on coming together, appeared to be in favor of the prolongation; some were opposed to it; and of the latter the commissioners of Prussia, England, Russia, Austria, and the United States were in the outset of one opinion, viz :

"1. That they were without authority from their respective governments to assent to a prolongation.

"2. That the regulations confirmed by imperial decree of the 12th July, 1865, fixing the close of the Exposition on the 31st October, form the contract between the Imperial Commission and the exhibitors, and cannot be departed from without the consent of the exhibitors, which it is now too late to obtain. It is impossible, therefore, to assent to a prolongation; but the two first days of November being religious fêtes, and the third Sunday, not much work can be done; hence it is practicable to consider the Exposition closed on the 31st, in conformity with the contract, allow exhibitors to take possession of their products, commence the delivery of such as are sold, the taking down and packing of those not sold, and in general to begin the work; it is desirable at the same time to admit the public at the usual price during the three days of fête, as it will not materially embarrass the little work which can be done, and will create a considerable fund, to be given to the poor of Paris.

"These views, after considerable discussion, were agreed to by the foreign commissioners in general, reported to the Imperial Commission, and in substance accepted by them as developed in the annexed notice from the *Moniteur*, in which an appeal is also made by the Im-

perial Commission to the exhibitors to favor the charitable object of the three days as far as their convenience will permit.

"In conformity with this arrangement, the sale and delivery of products, the introduction of packing boxes and workmen, and the preparation for a general demolition of the Exposition are going on, in presence of visitors, whose admission will terminate on the 3d instant.

"To avoid any misapprehension, I beg to state distinctly that no disposition nor wish was shown to modify the implied contract resulting from the regulations, without the entire concurrence of all parties interested, and the conference was invited for the purpose of mutual consultation and harmonious action on that subject.

"I have also to report that the United States Commission, which for some time past has held daily sessions for the dispatch of the business intrusted to them, brought their meetings to a close with the close of the Exposition on the evening of the 31st October, and adjourned *sine die*. The proceedings were concluded by a unanimous vote of thanks to the Commissioner General, also to the commissioners who have acted successively as secretaries to the commission.

"The journal of the proceedings of the commission, and the reports which they have prepared, will be forwarded in due course to the Department of State."

CEREALS COLLECTED BY EXCHANGE.

Mr. Beckwith to Mr. Seward.

"PARIS, December 18, 1867.

"I have the honor to transmit herewith a catalogue of 1,442 specimens of cereals which I have collected, partly by exchanges, at the close of the Exposition.

"They are derived from each of the countries surrounding the Mediterranean, every country in Europe, and many localities of each country, and are consequently the product of great varieties of climate and soil, and being Exposition specimens are likely to be the result of the most approved methods of production, and free from noxious weeds and herbs.

"The collection comprises wheat, oats, beans, corn, millet, hemp, barley, buckwheat, linseed, rape, rye, beets, colza, mustard, carrots, clover, radish, canary, sorghum, sesame, peas, anise, timothy, &c.

"The quantity of each is unavoidably small, but probably sufficient for reproduction, and if distributed among many cultivators in suitable localities as regards climate and soil, may, perhaps, introduce some varieties which have been improved by laborious and intelligent care in the cultivation.

"The specimens are enveloped in paper sacks, each of which is numbered to correspond with the numbers and description in the catalogue,

and are packed in a box addressed to the Agricultural Bureau, Washington, and forwarded by the ship *Mercury*, care of J. C. Derby, esq., agent, New York."

DISTRIBUTION OF MINERAL COLLECTIONS.

Mr. Beckwith to Mr. Seward.

"PARIS, *March* 27, 1868.

"SIR: Since the close of the Exposition I have delivered to the exhibitors in the mineral department all the specimens claimed by them, and taken receipts for them.

"But there remained after such deliveries a large quantity unclaimed, consisting principally of specimens, from numerous localities, of coal, iron, lead, copper, zinc, mica, franklinite, kaolin, hydraulic cement, building stones, marbles, slate, sulphates, carbonates, alum, salt, sulphur, pyrites, &c. These specimens were contributed in small quantities from many sources, and for the purpose of return to the United States they would only be worth the price of raw minerals. This would be covered by a small sum of money, not enough to defray the expenses of return or redistribution, even if ownership could be determined, which in most cases it could not be; these, and similar considerations, are, doubtless, the reason of their remaining unclaimed. In addition to the coarser minerals above named, Mr. Whitney, of Colorado, placed at my disposal a large and beautiful collection of the ores of that region, containing silver, gold, copper, lead, &c. But though the mineral value of these products for the purpose of returning them to the place of their origin is less than the expense, the question of value as specimens for analysis and study assumes a different aspect; the collection of minerals from remote regions involves considerable labor and cost, which are the proper measure of their value for the purposes alluded to, and I have thought the most useful disposition I could make of them would be to distribute them among the colleges, schools, museums, and other public institutions for the promotion of mineralogical studies, thus placing before the student classes the means of acquiring some knowledge of the quality and extent of the mineral products of the United States as a field for the young and enterprising.

"For this purpose the minerals were assorted, classified, labeled, divided, catalogued, and packed by Mr. D'Aligny, mining engineer, in separate parcels, and having obtained the requisite authorizations from the authorities, I have made, in the name of the contributor and of the government, the following gratuitous distribution of them:

	Boxes.	Specimens.
Association Polytechnique	10	70
Conservatoire Impérial des Arts et Metiers.....	5	68
École Centrale des Arts et Manufactures.....	7	162

	Boxes.	Specimens.
École Chrétienne de Passy.....	7	114
École d'Application du Génie Maritime.....	2	37
École Impériale de Grignan.....	4	43
École Impériale des Mines—department of geology, 4 boxes, 78 specimens; department of mineralogy, 2 boxes, 55 specimens.....	6	133
Muséum d'Histoire Naturelle.....	7	92
Musée de Toulouse.....	2	61
L'Union Centrale des Beaux-Arts, (building materials).....	6	66
Collège Chaptal.....	3	32
Musée Royal de Bruxelles.....	1	71
Musée Industriel de Turin.....	4	56
Université de Christiania.....	2	48
École Polytechnique de Stockholm.....	2	53
Total.....	68	1,106

"With the minerals I distributed also a number of the General Land Office reports and maps of the mineral regions, which I had reserved for this purpose. I annex hereto a translation of the letter addressed to the minister of commerce, agriculture, and public works, which is similar to those addressed to each of the other departments; also copies of the several replies to these letters, with translations."

Mr. Beckwith to the minister of agriculture, commerce, and public works.

"PARIS, March 9, 1868.

"SIR: Several exhibitors in the mineralogical section of the United States exhibition having left their specimens at the disposal of the government, I have caused selections to be made of such as I deemed useful or interesting to some of the public institutions in the department of your excellency, and I hereby ask leave to present the collections thus made as follows:

"To the Central School of Arts and Manufactures, 7 boxes, containing 162 specimens of lead, coal, zinc, iron, silver, copper, emery, franklinite, &c.

"To the Conservatory of Arts and Trades, 6 boxes, containing 69 specimens of lead, coal, zinc, iron, silver, copper, emery, franklinite, &c.

"To the Imperial School of Mines, geological department, 6 boxes, containing 78 specimens of lead, coal, zinc, iron, silver, copper, emery, franklinite, &c.

"To the Imperial School of Mines, mineralogical department, 2 boxes, containing 55 specimens of lead, coal, zinc, iron, silver, copper, emery, franklinite, &c.

"To the Imperial School of Grignan, 4 boxes, containing 43 specimens of lead, coal, zinc, iron, silver, copper, emery, franklinite, &c.

"Detailed catalogues and envelopes containing duplicate catalogues addressed to the different institutions named above are herewith inclosed."

Similar letters were addressed to Messrs. Broström, consul general of Sweden and Norway, for Polytechnic School of Stockholm, Université de Christiania; Le Baron Haussmann, préfet de la Seine, Association Polytechnique, Collège Municipal Chaptal; Duruy, minister of public instruction, Muséum d'Histoire Naturelle; Minister of Marine, École Impériale des Génie Maritime; M. Guichard, president Association des Beaux-Arts appliqués à l'Industrie; Frère Philippe, École Chrétienne de Passy; S. Le Rayet, Muséum d'Histoire Naturelle de Toulouse; Minister of the Interior, Brussels, Musée Royal de Bruxelles; Le Chevalier Jervis, Muséum de Turin.

TRANSLATIONS OF REPLIES RECEIVED IN RESPONSE TO THE FOREGOING.

"PARIS, *March 23, 1868.*

"SIR: You inform me in your letter of the 9th March that several of the exhibitors in the mineralogical section of the United States of America have placed their specimens at the disposition of your government, and you have been so good as to express the desire to distribute among the establishments under the direction of this department a portion of the specimens named, such as you think of a nature to be useful or interesting to them, requesting the authorization to present the minerals in question to the institutions named in your letter, inclosing to me at the same time catalogues and letters addressed to the directors of those establishments, upon the receipt of which the packages will be delivered. I accept cordially this generous offer, for which I pray you to accept my thanks.

"I will transmit to the directors of those establishments the letters you have been pleased to address to them, and I beg you to receive the assurance of my distinguished consideration.

"*The Minister of Agriculture, Commerce, and Public Works,*

"DE FORCADE."

"PREFECTURE OF THE DEPARTMENT OF THE SEINE,

"*Paris, March 26, 1868.*

"SIR: You have been so good as to offer in the name of the exhibitors of the United States a collection of mineral specimens for the Municipal College of Chaptal, and for the Polytechnic Association, which institutions are under the patronage of the city of Paris.

"Those establishments will surely find these interesting collections useful auxiliaries in teaching, and I pray you to accept my cordial thanks for them, with assurances of my distinguished consideration.

"*Le Sénateur, Préfet de la Seine,*

"HAUSSMANN."

"INSTITUTION DES FRÈRES DES ÉCOLES CHRÉTIENNES,

" *Paris, March 14, 1868.*

"SIR: I have received with your generous letter of the 9th instant the catalogue of seven cases of minerals, the produce of the United States of America, which you have been so good as to present to this institution, and have lost no time in taking possession of this rich and precious collection.

"A gift so gracious leaves us without words to express our thanks, but, penetrated with the liveliest sentiments, I offer, in the name of our institution, and in my own name, first to you, and in your person to the great and generous government you so well represent, the tribute of our gratitude for the excellent gift we have received from your liberality.

"I pray you, sir, to accept this modest tribute, and permit me to add the homage of the respectful sentiments with which I have the honor to be

"Your obedient servant,

"*Le Supérieur Général,*

"FRÈRE PHILIPPE."

"MINISTÈRE DE L'INSTRUCTION PUBLIQUE,

"*Paris, March 25, 1868.*

"SIR: You have been pleased to express the desire, by your letter of the 9th instant, to offer to the museum, in the name of the exhibitors of the mineralogical section of the United States, an interesting collection of mineral products from that country. I pray you to accept my cordial thanks for this gift, which will add to the riches of the mineralogical department of the museum. I have requested the director of that establishment to take the necessary steps immediately to place the museum in possession of your contribution.

"Be pleased to receive the assurances of my distinguished consideration.

"*Le Ministre de l'Instruction Publique,*

DURUY.

"ÉCOLE IMPÉRIALE DE GÉNIE MARITIME,

"*Paris, March 16, 1868.*

"SIR: In reply to your letter of the 9th instant, I have the honor to inform you that I have received the specimens of coal from different localities presented to the School of Marine Engineering by the exhibitors of the United States of America.

"This collection possesses great interest for us. I hasten to express my gratitude for the destination you have given it, and pray you to convey these expressions to the exhibitors, whose names will be carefully inscribed on the specimens which they have given to the school.

"Be pleased to receive the assurance of my high consideration.

"*Le Directeur de l'École Impériale d'Application du Génie Maritime,*

"S. REECH."

"KINGDOM OF ITALY,
"Royal Italian Industrial Museum at Turin.

"The director of the museum returns thanks to the Commission of the United States at the Universal Exposition of 1867 for the objects named below, presented to the museum, and in consideration of their importance has directed that they form part of the collections intended to illustrate the latest progress of industry :

"Collection of mineral products from the United States of America, coming from the Universal Exposition of 1867, at Paris.

"The Director,
"DE VINCENZI."

"ÉCOLE IMPÉRIALE DES MINES,
"Paris, March 25, 1868.

"SIR: The minister of agriculture, commerce, and public works has transmitted to me the letter you did me the honor to address to me on the 9th instant, offering to the School of Mines six cases of minerals from the United States, which have been displayed at the Universal Exposition of 1867.

"I shall lose no time in taking possession of these cases, and I make haste to offer you my thanks for this interesting collection, which will be placed, with care, in the museum of the School of Mines, and a special mention will make known its origin and the names of the contributors.

"Be pleased to receive the renewed assurances of my distinguished consideration.

"L'Inspecteur Général des Mines,
Directeur de l'École Impériale des Mines,
"CH. COMBES."

"CONSULAT GÉNÉRAL DE SWEDE ET NORVÈGE,
"Havre, March 11, 1868.

"SIR: I had the honor to receive your letter of the 9th instant, announcing the generous offer which you were pleased to make, in the name of the mineralogical section of the United States of America, at the Universal Exposition of Paris, of four cases, containing samples of minerals, of which two are intended for the Polytechnic School at Stockholm, and two for the University of Christiania, in conformity with the two catalogues inclosed in your letter.

"I will immediately take possession of the cases, in conformity with your letter of address.

"Be pleased to accept the expression of my distinguished consideration.

"Consul General for Sweden and Norway,
"CH. BROSTRÖM."

“ MINISTÈRE DE LA MARINE ET DES COLONIES,

“ *Paris, March 16, 1868.*

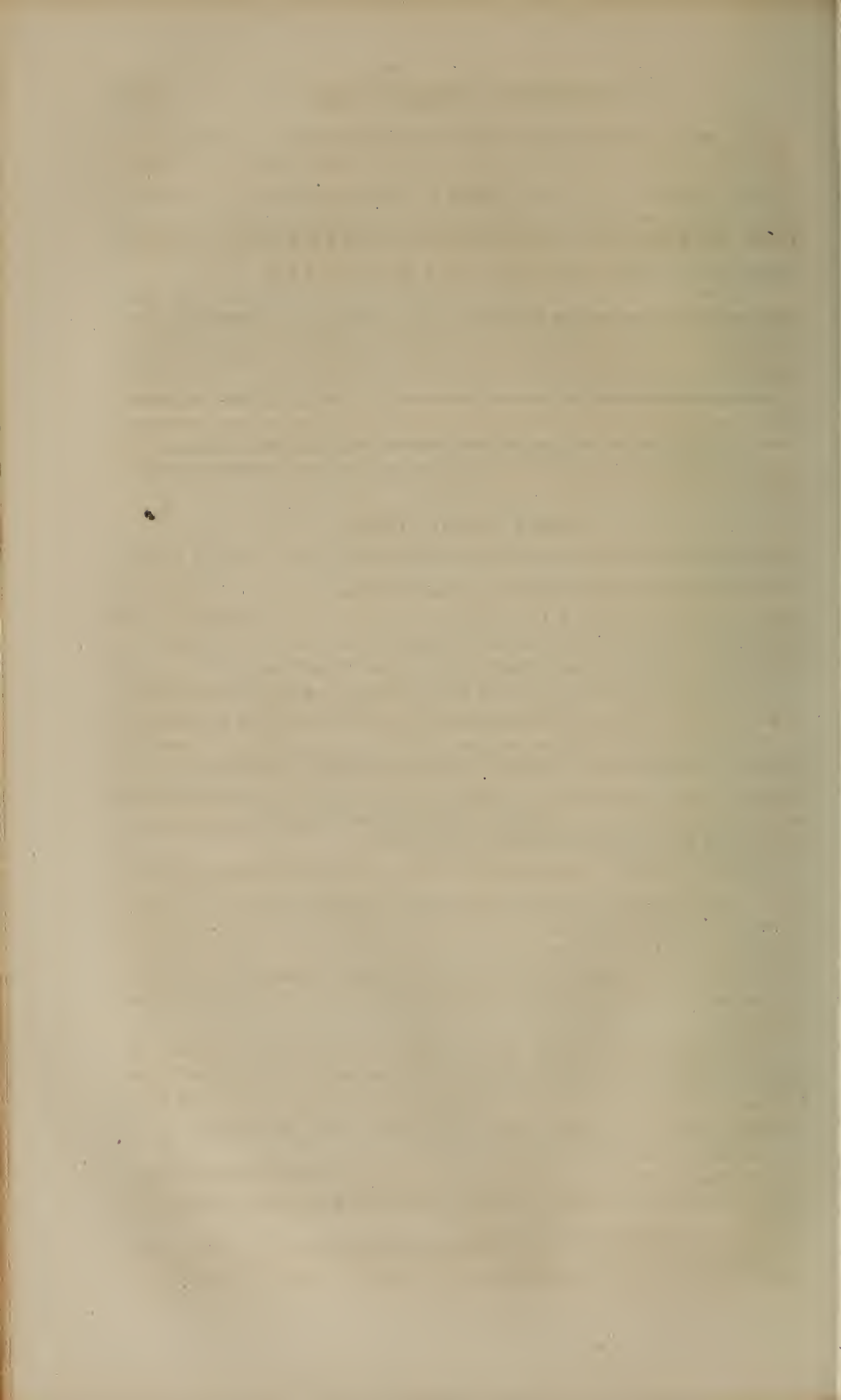
“SIR: I have received the letter which you did me the honor to address to me on the 9th instant, proposing to present to the Imperial School of Marine Engineering two cases of mineral specimens from the Exposition of 1867.

“I hasten to inform you that I accept with lively pleasure this offer, and that I have transmitted to the director of that establishment the catalogue of samples which you have been so good as to present to my department.

“Be pleased to receive the assurance of my distinguished consideration.

“*L'Amiral Ministre Secrétaire d'État de la Marine et des Colonies,*

“A. RIGAULT DE GENOUILLY.”



III.

THE ACTION OF CONGRESS—ESTIMATES, APPROPRIATIONS, AND EXPENSES.

JOINT RESOLUTIONS PASSED BY CONGRESS—ESTIMATES BY THE COMMISSIONER GENERAL OF THE COST OF THE EXPOSITION—ESTIMATES, IN DETAIL, FOR TRANSPORTATION, UNPACKING, INSTALLATION, GUARDING, LINGUISTS—FOUNDATIONS AND FIXTURES FOR MACHINERY—DECORATIONS, CASES, STORAGE, LEGAL EXPENSES, ETC.—ESTIMATE OF EXPENSES OF SCIENTIFIC COMMISSION—DISCUSSION OF THE AMENDMENTS PROPOSING TO STRIKE OUT THE PROVISIONS FOR THE PAYMENT OF A PART OF THE APPROPRIATION IN COIN—REPORT OF THE ADVISORY COMMITTEE UPON THE NECESSITY FOR FURTHER APPROPRIATIONS—EXPENDITURES, REPORT FROM THE COMMISSIONER GENERAL—REPORT FROM THE AGENT IN NEW YORK.

JOINT RESOLUTIONS

IN RELATION TO THE INDUSTRIAL EXPOSITION AT PARIS, FRANCE.

"Whereas the United States have been invited by the government of France to take part in a Universal Exposition of the productions of agriculture, manufactures, and the fine arts, to be held in Paris, France, in the year eighteen hundred and sixty-seven: Therefore,

"Be it resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That said invitation is accepted.

"SEC. 2. *And be it further resolved, That the proceedings heretofore adopted by the Secretary of State in relation to the said Exposition, as set forth in his report and accompanying documents concerning that subject, transmitted to both houses of Congress with the President's message of the eleventh instant, are approved.*

"SEC. 3. *And be it further resolved, That the general agent for the said Exposition at New York be authorized to employ such clerks as may be necessary to enable him to fulfill the requirements of the regulations of the Imperial Commission, not to exceed four in number, one of whom shall receive compensation at the rate of eighteen hundred dollars per annum, one at sixteen hundred dollars, and two at fourteen hundred dollars.*

"SEC. 4. *And be it further resolved, That the Secretary of State be, and is hereby, authorized and requested to prescribe such general regulations concerning the conduct of the business relating to the part to be taken by the United States in the Exposition as may be proper.*

"Approved January 15, 1866."

"JOINT RESOLUTION to enable the people of the United States to participate in the advantages of the Universal Exposition at Paris in eighteen hundred and sixty-seven.

"Be it resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That, in order to enable the

people of the United States to participate in the advantages of the Universal Exposition of the productions of agriculture, manufactures, and the fine arts, to be held at Paris in the year eighteen hundred and sixty-seven, the following sums, or so much thereof as may be necessary for the purposes severally specified, are hereby appropriated out of any money in the treasury not otherwise appropriated:

"First. To provide necessary furniture and fixtures for the proper exhibition of the productions of the United States, according to the plan of the Imperial Commissioners, in that part of the building exclusively assigned to the use of the United States, forty-eight thousand dollars.

"Secondly. To provide additional accommodations in the Park, twenty-five thousand dollars.

"Thirdly. For the compensation of the principal agent of the exhibition in the United States, at the rate of two thousand dollars a year—*Provided,* That the period of such service shall not extend beyond sixty days after the close of the exhibition—four thousand dollars, or so much thereof as may be found necessary.

"Fourthly. For office rent at New York; for fixtures, stationery, and advertising; for rent of storehouse for reception of articles and products; for expenses of shipping, including cartages, &c.; for freights on the articles to be exhibited, from New York to France; and for compensation of four clerks, in conformity with the joint resolution approved on the fifteenth of January, eighteen hundred and sixty-six, and for contingent expenses, the sum of thirty-three thousand seven hundred dollars, or so much thereof as may be found necessary.

"Fifthly. For expenses in receiving, bonding, storage, cartage, labor, and so forth, at Havre; for railway transportation from Havre to Paris; for labor in the Palace; for sweeping and sprinkling compartments for seven months; for guards and keepers for seven months; for linguists (eight men) for seven months; for storing, packing boxes, carting, and for material for repacking; for clerk-hire, stationery, rent, and contingent expenses, the sum of thirty-five thousand seven hundred and three dollars, or so much thereof as may be found necessary.

"Sixthly. For the traveling expenses of ten professional and scientific commissioners, to be appointed by the President, by and with the advice and consent of the Senate, at the rate of one thousand dollars each, ten thousand dollars, it being understood that the President may appoint additional commissioners, not exceeding twenty in number, whose expenses shall not be paid; but no person interested, directly or indirectly, in any article exhibited shall be a commissioner; nor shall any member of Congress, or any person holding an appointment or office of honor or trust under the United States, be appointed a commissioner, agent, or officer, under this resolution.

"SEC. 2. And be it further resolved, That the governors of the several States be, and they are hereby, requested to invite the patriotic people of their respective States to assist in the proper representation of the

handiwork of our artisans, and the prolific sources of material wealth with which our land is blessed, and to take such further measures as may be necessary to diffuse a knowledge of the proposed exhibition, and to secure to their respective States the advantages which it promises.

"SEC. 3. *And be it further resolved*, That it shall be the duty of the said general agent at New York, and the said Commissioner General at Paris, to transmit to Congress, through the Department of State, a detailed statement of the manner in which such expenditures as are hereinbefore provided for are made by them respectively.

"Approved July 5, 1866."

"A RESOLUTION to provide for the exhibition of the cereal productions of the United States at the Paris Exposition in April next.

"*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled*, That the Commissioner of Agriculture be, and he is hereby, instructed to collect and prepare, as far as practicable, and with as little delay as possible, suitable specimens of the cereal productions of the several States of the Union, for exhibition at the Paris Exposition, and forward the same in proper order and condition for shipment to J. C. Derby, agent of the United States government for the Paris Exposition, at New York: *Provided*, That it shall require no further appropriation from the public treasury.

"Approved January 11, 1867."

"A RESOLUTION supplementary to other joint resolutions to enable the people of the United States to participate in the advantages of the Universal Exposition at Paris in 1867.

"*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled*—

"I. That the commission of the United States at the Universal Exposition to be held at Paris in the year eighteen hundred and sixty-seven shall consist of the Commissioner General and honorary commissioner, whose appointment was approved by the joint resolution of January twenty-two, eighteen hundred and sixty-six; also of the thirty commissioners, whose appointment was provided for by the joint resolution of July five, eighteen hundred and sixty-six, and of twenty commissioners, whose appointment is hereinafter provided for.

"II. That the Commissioner General shall be the president of the commission thus constituted, with a vote on all questions that may arise.

"III. That the commission shall meet at Paris as early as possible before the opening of the Exposition, upon the call of the Commissioner General, and when properly organized, shall make such rules and regulations as may be necessary for efficient action, with power to elect a vice-president from their own number, who, in the absence of the Commissioner General, shall preside at all meetings of the commission, and to appoint committees and chairmen of groups.

"IV. That the commission may designate additional persons, not exceeding twenty in number, being citizens of the United States, known to be skilled in any branch of industry or art, who are hereby authorized to attend the Exposition in behalf of the United States, as honorary commissioners without compensation.

"V. That the commission may employ a secretary and clerks for the commission, the necessary scientific assistants and draughtsmen, and may engage suitable rooms for the commission.

"VI. That no commissioner shall act as agent for the show or sale of any article at the Exposition, or be interested, directly or indirectly, in any profits from any such article.

"SEC. 2. *And be it further resolved*, That fifty thousand dollars, or so much thereof as may be necessary for the purposes severally specified, are hereby appropriated out of any money in the treasury not otherwise appropriated.

"For additional freights from New York to Havre.

"For transportation and freight from Havre to Paris.

"For return freight of articles owned by the United States or lent to the government by individuals.

"For marine and fire insurance on the articles thus lent.

"For additional steam-power at Paris, in the Palace and the Annex, or supplemental building, and in grounds adjacent.

"For the exhibition of machines, agricultural and other, and for the erection of buildings to illustrate the education and agriculture of the United States, and for the collection of specimens of agricultural productions under the joint resolution for that purpose.

"For the necessary expense of collecting, classifying, labeling, and packing mineralogical and metallurgical specimens to complete the exhibition of the mineral wealth of the United States.

"For the necessary expense of laborers and extra service in the offices at Paris and New York, and for the expenses of a secretary, clerks, scientific assistants, and draughtsmen, rooms, and other incidental expenses of the commission.

"SEC. 3. *And be it further resolved*, That it shall be the duty of the general agent at New York, and of the Commissioner General at Paris, to transmit to Congress, through the Department of State, a detailed statement of the manner in which the expenditures herein authorized are made by them respectively.

"Approved March 12, 1867."

ESTIMATES OF COST OF THE EXPOSITION.

Mr. Beckwith to Mr. Seward.

"PARIS, January 11, 1866.

"SIR: The joint resolutions on the subject of the Exposition, presented to Congress on the 21st December, provide for the expenses of a

scientific commission, the freight of products to and from Europe, and the expenses of the agency in New York.

"I beg to suggest the expediency of introducing into these resolutions a similar distinct provision for the expenses on this side.

"The service here will continue longer than in New York, and will be more expensive, because it will require more employés.

"The principal items will be, rent and expenses of an office in which the business of the Exposition can be transacted, and in which the regular meetings and work of the scientific commission can be accommodated; the wages of clerks; the cost of stationery, printing, fuel, lights, &c.; and the wages of an engineer architect, for the constructions to be made.

"Notarial expenses: all the work should be put under notarial contracts in May or June next, at the latest. From the nature of the constructions and the distribution of the work, the contracts will be numerous; and unless put in notarial and legal form, so that the work can be pressed under penalties, it will not be done in time, and worse still, there will be numerous disputes and troublesome lawsuits about it, which should be avoided.

"The expenses of warehousing and labor at Havre and inland transportation, in and out, will be considerable.

"The reception of the products at Paris, and the unpacking and placing for exhibition, will take place in winter, when the days in this latitude are short, and the weather stormy and uncertain.

"The work can go on only by daylight; the distance from the entrepôts of the railway to the Champ de Mars is three miles, directly across the city; the expenses of cartage will not only be considerable, but the work must be carefully looked after throughout, or there will be much damage to property, and no redress.

"The item of cab hire will of necessity be considerable, and will be an economy as being less expensive than more clerks, which will otherwise be indispensable.

"The labor of placing machinery to be worked by motive force, or not worked, and the labor of unpacking and repacking, and of other products, and handling and placing of them for exhibition, must be done by a class of competent laborers, under the constant direction of the engineer architect before spoken of.

"It is impossible to compute in advance, with any useful accuracy, these incidental expenses.

"But the item of cost of installation, (fixtures, show-cases, &c.,) as stated in my letter of the 23d November, cannot, I think, be brought under \$48,000, in Paris.

"The installations are the work alluded to, which must be put under contracts in May and June, and the contracts must be supervised in the making by the engineer architect, who alone is familiar with the technicalities requisite in such contracts.

"My estimates for this item are based on a careful study of the details of the cost of similar work in London and in Paris, supplied to me by the Imperial Commission and used for their own estimates; and I may add, that the appropriations made in this department by Switzerland, as I am informed, amount to \$80,000, to cover what I estimate at \$48,000, it being my intention to dispense with the ornamental that is not useful and necessary.

"I have not thought it necessary to trouble you with even this much of detail, and my apology for doing so now is, that on reading the draught of resolutions referred to, it occurs to me that you may think it desirable to ask for the introduction in these resolutions of a more distinct provision for the expenditures on this side, which involve also exchanges, and for all which you will have occasion subsequently to authorize the disbursements, which must go on simultaneously with the work.

"I beg to repeat the opinion I have before expressed, that the exhibition cannot cost under \$200,000, nor do I think it can exceed \$400,000; probably it will not vary much from \$300,000, and in my judgment it would be better not to undertake it than to do so on a less scale, which I am confident would result in disappointment and dissatisfaction.

"As soon as the final action of Congress is known, I will take the liberty of suggesting some regulations and instructions in that conformity, applicable chiefly to the work on this side, and to the disbursements and accounts, which suggestions, I trust, may recommend themselves to your consideration by their fitness in a manner to obtain your sanction."

Mr. Beckwith to Hon. N. P. Banks.

"PARIS, February 21, 1866.

"I have taken the liberty of addressing a letter to you as chairman of the Committee on Foreign Relations, presenting in considerable detail my estimates of the expenses of the exhibition.

"You will, I think, be convinced, if you had any doubt, that the appropriation proposed in Congress is inadequate to the occasion, and that the subject deserves reconsideration. Judging from the debates in the House which have reached me, the Exposition, in the estimation of that body, is not of much importance to the United States. I inclose herewith a list of the names of the English committee, present at their last meeting in London. Most of them will be familiar to you; they are those of men most prominent in politics, in industry, in the sciences and the arts.

"Similar organizations exist in most of the countries of Europe, and they indicate the importance which is on this side ascribed to the Exposition. These appreciations may be exaggerated, or they may not be, but there is no feature in the civil affairs of Europe so striking as the wonderful and steady growth of the commerce and wealth of the leading nations; and whether or not they overrate the value of the Exposition, I feel convinced that no country, not even France, can derive so much

benefit from it as the United States, in every sense, scientific, industrial, commercial, and political.

"Under the circumstances which are now past, the government might perhaps have made or found reasons for declining to accept the invitation of the French government, though I think that would have been impolitic, and in the end unsatisfactory to the country. But Congress has accepted the invitation, and it now remains to consider the provisions suitable for it. The new feature of this Exposition is, that the producers of the different countries appear only through their governments.

"The government of the United States cannot come forward and present the products of the nation, scientific, industrial, mineral, and agricultural, in a manner satisfactory to itself and to the country, without the expenditure of a considerable sum of money; it is to be done not only in presence of the governments of Europe, but in competition with them, and they are doing their best in the same way for their own people.

"At a later period, when the entire press of Europe, able and powerful as it is in its influence on public opinion and affairs, becomes occupied with the Exposition, as it certainly will be, the importance of it in every point of view will become more apparent to those who at present have not the time nor occasion to reflect upon it.

"But in addressing you it would be superfluous, and in me presumptive, to dwell upon the numerous and interesting considerations which invite us to the Exposition."

Mr. Beckwith to Mr. Seward.

"PARIS, February 21, 1866.

"I have the honor to acknowledge receipt of your letter of the 29th January; also, the letter of the acting Secretary of State, of the 15th January.

"I have thought it might be useful to lay before the chairman of the Committee on Foreign Affairs, in the House of Representatives, estimates of the cost of the exhibition in much greater detail than those I have heretofore submitted, and I have accordingly addressed him on the subject.

"But it is impossible for me to know what the state of the business will be on the receipt of this communication. I therefore take the liberty to inclose it herewith, and leave it open that it may be read and sent to the address, or suppressed, as you may please to decide will be best."

Mr. Beckwith to Hon. N. P. Banks.

"PARIS, February 21, 1866.

"I take the liberty of submitting for your consideration the estimates in detail, which show the probable cost of the exhibition of 1867.

"They are based upon the results of previous exhibitions, upon local inquiries, and upon conjecture in regard to the quantity of products to be transported.

"The surface of ground within the Palace to be actually covered by products is about ten thousand square feet. If this area were covered to the height of four feet, the cubic contents would be forty thousand cubic feet, equal to one thousand tons of forty cubic feet each.

"I omit calculations relating to the groups in the Park, and assume one thousand tons as a convenient figure. The exact quantity is of small moment; the cost of transportation is but a small part of the whole cost; and the general expenses will be about the same, whether the quantity of freight be five hundred, or one thousand, or fifteen hundred tons.

"Transport on the railways is regulated by tariff, and it is impossible to know in advance what proportion will fall under the different rates. I therefore assume the medium rate from Havre to Paris, which is sixteen francs per ton :

1st. 1,000 inward, at sixteen francs, 16,000 francs, or at 5 francs	\$3, 250
Outward.....	3, 250
Landing expenses, bonding, storage, cartage, labor, and commissions for forwarding inward, $7\frac{1}{2}$ francs.....	1, 500
Outward	1, 500
Paris, cartage a distance of about three miles from the depot to the Champ de Mars and labor, 6 francs.....	1, 200
Outward.....	1, 200
	<hr/>
	11, 900

"Unpacking in the Palace will commence on the 15th January, 1867, and end on the 30th March, 1867, a period of one and a half months. About the same time will be required for repacking and dispatch, making together three months. The number of laborers required for this work, which can only be done by daylight, will be increased by the shortness of the days in this latitude at that season of the year. The chef de service of the Imperial Commission, who superintends this work in the French section, and who has had great experience in the work both in London and Paris, informs me that I will require thirty laborers for six weeks inward and the same outward.

"The labor must be directed by an engineer architect capable of placing machinery in connection with motive force for action, and who is also familiar with the architectural plans and the arrangement of groups and classes for display. The greater part of the laborers must be those who are accustomed to work among machinery, &c., or in warehouses and shops, accustomed to packing and unpacking and the placing of varieties of fabrics and products for display. There will be a

great demand for that kind of labor, and wages will probably average five francs per day :

2d. 90 days for inward and outward, at 5 francs = $450 \times 30 =$
13,500 francs.....

\$2,700

“During the Exposition, which will last seven months, the compartments must be sprinkled and dusted every morning and kept in proper condition :

3d. 214 days, at 10 francs, 2,140 francs.....

428

“There must be a guard in each compartment during the visiting hours to prevent thefts and damages and report any misconduct of visitors. The French government provides police, &c., day and night, but does not respond for thefts and damages by visitors. This service will require seven men, which I estimate at 5 francs per day, and one man at 10 francs per day.

4th. 214 days $\times 7 = 1,498$ days, at 5 francs, 7,490 ; 214 days,
at 10 francs, 2,140—9,630 francs.....

1,926

“It is usual for the Commissioner General to provide a number of linguists capable of giving explanations of machinery and other products to visitors. Without this many of the most curious and interesting objects cannot be understood ; important qualities are unobserved and the intended diffusion of information fails. I propose for this service two men in Group VI, and one man in each of the other groups, making—
5th. Eight men, 214 days = 1,912, at 10 francs per day, 19,120 francs.....

3,824

“This number will not be sufficient for the work, but I leave to exhibitors to give such explanations of their own works as they may be able to do, and to make further provision by interpreters if they think their interests require it ; also to provide the men for attending machines in action and the expenses of materials, &c., consumed in the working.

“The cost of foundations and fixtures for machinery, the cost of show cases, tables, and other fixtures or installations I take from the lowest average cost of similar work in the London and Paris exhibitions, excluding therefrom all decorations. The data for this have been supplied me by the Imperial Commission, and I cannot reduce the estimates I first reported :

6th.....

48,000

“Expensive decorations will be used in all other sections, and their absence from ours I do not expect will be wholly satisfactory to the Imperial Commission, to the public, nor to our own people.

“I could provide very respectable decorations of the kind most used for, I think, \$10,000, but I have wholly omitted this item in my estimates.

"Packages (which are expensive here) will all require to be removed to a considerable distance to find storage for them for seven months and then returned to be used again.

7th. Cost of cartage, storage, recartage, and new materials for repacking.....

\$1, 000

"The contracts for the above works (installations) should be made in May and June, 1866, and should all be notarial and drawn by the aid of the engineer architect, who is familiar with the forms and nomenclature. Unless the contracts are so made and carry penalties which can be enforced, the work will not be ready in time; it will not conform to the agreements and the wants; and there will be disputes, references, and law-suits as well as disappointments.

"The notariats, &c., I hope to include in the above estimate, though it is not in the originals. The information relating to the preceding has been derived chiefly from the Imperial Commission and from the tariff of railways.

"The following estimate of office expenses is from Messrs. Munroe & Co., a respectable banking-house:

Office rent per annum.....	\$1, 000
Fire and lights.....	250
Porter.....	500
Stationery.....	300
Postages.....	100
City taxes.....	200
Office furniture ¹	600
Printing.....	150
	<hr/>
	3, 100

8th. One year and nine months..... 5, 425

"The force required will be an accountant, a corresponding clerk, a copyist, and an out-door clerk:

9th. One at \$1,600, one at \$1,400, and two at \$1,200, \$2,400—
\$5,400, one year and nine months.....

9, 450

"An engineer architect familiar with French and English and acquainted with Paris, to superintend, the work as before stated, is indispensable. The four clerks must also be familiar with two languages at least, and acquainted with business in Paris. The cost of an engineer architect I estimate at \$3,000 per annum.

10th. One year and nine months..... 5, 250

11th. The extra expenses of a building in the Park, such as I have recommended, stands in my estimate at..... 25, 000

114, 903

¹ Probably can be sold for two-thirds of the cost.

"But I hope the report from Mr. Derby of the space required will enable me to reduce this estimate.

"These are the estimates of expenses on this side proper to the exhibition, and to this must be added exchange :

12th. Which with gold at 142 will be..... \$48, 301

163, 204

A scientific commission of ten persons, and employed for one year, they paying their own traveling and all other expenses, I estimate at \$6,000 each..... 60, 000

They will require local professional assistants, as stated more fully in my letter on the subject to the Department of State, and I estimate for that purpose..... \$30, 000

90, 000

Exchange as above..... 37, 800

13th..... 127, 800

\$291, 004

"I have not included herein sea freights, which I estimate at \$7,000 each way in sailing vessels; nor the expenses in New York, to be determined by the length of time it will be requisite to keep that office open.

"Neither is anything here put down for contingent expenses, which are likely to arise from unforeseen causes.

"It is not probable the actual expenditures will run exactly with the estimates of items above; some of them will cost more and others less; but if the appropriations admit of transfers, as they should do, from one item to another, an appropriation of \$300,000 I still hope will cover the cost of the work if carried out as projected; and I feel confident that if it is so carried out the cost cannot much exceed nor fall much short of that sum.

"But if reductions are to be made they will fall on the estimates for the scientific department. The estimates for the expenses on this side, which belong to the exhibition proper, cannot in my judgment fall below the sum above named, \$163,000."

Mr. Beckwith to Mr. Seward.

"PARIS, February 24, 1866.

"The communication which I had the honor of addressing through the Department of State to the chairman of the Committee on Foreign Affairs in the House of Representatives, on the 21st instant, contained a statement in detail of the estimated expenses of the exhibition.

"To bring the subject before you in a convenient form I annex hereto,

marked No. 1, a condensed statement of the items of expense enumerated in the estimates alluded to.

"For convenience of reference I also annex paper No. 2, which contains an extract from the letter which I had the honor of addressing to you on the 30th January, relating to the duties which will devolve on the Special Agent, on the Commissioner General, and on the Scientific Commission, separately and jointly.

"In framing the regulations for the exhibition and the instructions which you may please to send me, I solicit your consideration of the observations in paper No. 2, and would remark in continuation, that the Palace will be finished on the 1st December next, and ready to receive the fixtures and furniture, which must be previously constructed and prepared to be placed at that date.

"The great amount of work of this kind to be done for the different nations will create a large demand for that class of labor, and it will be necessary to make the contracts and commence the work early.

"If it be possible, as I trust it will be, for Mr. Derby to give me his definitive plans in time, I propose to make the contracts in May or June, and to begin the work; and in any event to do so at the earliest moment after the plans reach me."

No. 1.—Abstract of expenses.

Landing expenses at Havre, bonding, storage, cartage, labor, forwarding and commissions, 1,000 tons, inward \$1,500, outward \$1,500.....		\$3, 000
Railway transport to Paris, inward \$3,250, outward \$3,250...		6, 500
Paris, labor at depot and cartage three miles, inward \$1,200, outward \$1,200.....		2, 400
1st.....		11, 900
2d. Labor in the Palace, inward 1½ months, \$1,350, outward 1½ month, \$1,350.....		2, 700
3d. Sprinkling and sweeping compartments, 7 months.....		428
4th. Guard and keepers, 8 men, 7 months.....		1, 926
5th. Linguists, &c., 7 months (8 men).		3, 824
6th. Show cases, tables, and other fixtures.....		48, 000
7th. Storage of packing boxes, 7 months, cartage and material for repacking.....		1, 000
8th. Office expenses per annum \$3,100, 1 year 9 months.....		5, 425
9th. Wages of clerks per annum \$5,400, 1 year 9 months.....		9, 450
10th. Engineer architect per annum \$3,000, 1 year 9 months..		5, 250
11th. Estimate for Park building.....		25, 000
12th. Scientific Commission, 10 men, 1 year.....		60, 000
Assistants.....		30, 000

Mr. Beckwith to Mr. Seward.

“PARIS, March 14, 1866.

“An attentive perusal of the resolution of Congress No. 52, appropriating money for the exhibition, suggests the following remarks:

“If the sum appropriated by the resolution were adequate to the wants, it would be necessary to ask at once for a modification of its provisions. Without this change the probable intentions of Congress could not be executed.

“The expenditures required by the exhibition will not agree with the definitive appropriations under each head named in the resolution, while many other expenses equally unavoidable are not named nor provided for, either specifically or in general, by a contingent fund.

“The business being new, and in many things without precedents for a guide in making the estimates, they are not likely to agree exactly in details with actual expenditures; many of the elements of cost are fluctuating as regards supply and variable in price, and although the total expenditure may not exceed the total estimate, if the appropriations are subdivided and restricted to the different heads which are based on such estimates in detail, they will not be found to correspond with actual wants in practice.

“But the most important feature of the resolution No. 52 is, that with the exception of the provision for clerks on this side, and a small contingent fund, no mention is made or any provision whatever for expenditures under different heads, proper to the exhibition itself, which will amount to not less than \$160,000, United States currency.

“In the detailed estimates which I had the honor to transmit on the 21st February, the items of expense thus omitted to be provided for are enumerated, and it will be seen, I doubt not, that in principle they are unavoidable.

“It may hereafter appear that the estimates for some of these details are in excess, and that others are deficient, and again others may arise which have not been foreseen; but as they are in general based upon existing prices and upon the opinions of those who have had most experience in exhibitions, the total cost is not likely to vary much from the total of the estimates.

“If, therefore, Congress should make the necessary provision for the exhibition, they will greatly facilitate the work by providing at the same time for the transfer, in case of need, from the appropriations under such heads as may prove to be in excess, to those which may prove to be deficient, or to such as may have been unforeseen, provided that the total expenditure be kept within the total appropriation.

“Some discretion of this kind appears necessary in this case to avoid delays and embarrassments in conforming to the provisions of the appropriation bill, and to facilitate the work which Congress has in view.”

Mr. Beckwith to Mr. Seward.

“PARIS, July 18, 1866.

“I learn by the mail just arrived that the report of the committee of conference on the appropriation for the exhibition has been accepted and passed by the House of Representatives, and is likely to be passed by the Senate.

“The amendments which strike out the provisions for the payment of a part of the appropriations in coin, and the high rate of exchange, make it necessary for me to solicit your consideration of the situation in which the exhibition is thus placed.

“The appropriations to be expended on this side are \$48,000, \$25,000, and \$35,703; total, \$108,703.

“The estimates for these expenditures were made upon a careful study of details, and in my judgment they do not admit of reduction.

“The product of \$108,703 in coin, at the usual valuation at five francs per dollar, would be 543,515 francs. The same sum at the rate of exchange current at the last date, (3d July,) three francs, would produce 364,155 francs, which is a reduction of 179,360 francs, or \$35,872—thirty-three per cent. on the gross sum, or forty-nine per cent. on the net sum.

“If the effect of this reduction were merely to diminish the proposed exhibition of products one-third, it would necessarily exclude so many important products that our exhibition would lose its character of universality and be no longer in any proper sense an exhibition of the products of the United States.

“But this would not be the whole effect of the reduction in the appropriations. The exclusion of one-third of the products would not produce an economy of one-third in the expenses. The organizations and preliminary expenses on both sides will remain unchanged, or nearly so, and the expenses of administration for seven months that the Exposition will remain open cannot be materially reduced. All the expenses will be unavoidably the same, or nearly the same, for two-thirds as for the whole of the products proposed to be exhibited.

“The only economy resulting from a reduction of the quantity of products will be in the cost of transport and of a part of the installations, and after examining this in detail I am satisfied that a reduction of nearly two-thirds in the quantity of products is required to produce the saving of \$35,872, necessary to keep the expenditures within the appropriations.

“The space we have undertaken to fill in the Exposition Palace is small for the United States as compared with other nations, and a reduction of two-thirds, or even of one-half, will leave one-half that space vacant.

“An exhibition so limited in quantity, and so imperfect in its composition, will retain but small interest for the public, and smaller value for our producers; its cost will remain large in proportion to its importance, while the chief design of the undertaking and the hopes of a large portion of our producers will be nearly ruined.

"If, on the other hand, the work be continued as it has been begun, it will be a pretty fair representation of our products, and though still limited in quantity and variety it will be respectable and useful, but it will be barely installed and opened to the public when the appropriations will be exhausted, and to carry it on for seven months to its close without funds will only bring it to bankruptcy.

"Either of these results would be disagreeable and unsatisfactory to the country and to the government if not even embarrassing to the latter, and the probability of such a conclusion renders it incumbent on me to make these suggestions in advance, which I do with great reluctance.

"I am not informed whether any law or usage exists which carries exchange with the payments ordered by Congress and made by government in distant places or foreign countries; but if there is no method of covering the deficiency resulting from the reduction of the appropriations or the exchange, I respectfully suggest for your consideration whether the inadequate provision of Congress does not render the proposed exhibition in effect impossible.

"The deficiency, I believe, could be covered by an appeal to exhibitors and the public if I had time for it, but the work on this side is already so far in arrear that it will require my best efforts through the whole of the hot season to bring it up, which puts it out of my power to attempt that method of making up the deficiency. I shall therefore proceed with the preparations on their present footing, (in the absence of your instructions to the contrary,) but awaiting with solicitude the reply you may please to make to these suggestions."

Mr. Derby to Mr. Seward.

"NEW YORK, January 14, 1867.

"SIR: The report of my advisory committee, which was forwarded to you, calls for a further appropriation by Congress for freight, installations, insurance, additional steam power, and other necessary expenses; that is to say—

For additional installations of farm-house, school-houses, and western laborers' cottage, with all the appurtenances, including transportation; also for Palace and Annex.....	\$25, 000
Additional steam power.....	10, 000
Additional freights from Havre to Paris.....	15, 000
Return freights for articles owned by the government and individuals, including works of art loaned and not for sale, per steamer.....	20, 000
Additional freights by steamer on products too late for sailing vessels, including the minerals and metals of nearly all the States and Territories.....	20, 000
Necessary expenses for laborers and extra help in the Paris and New York offices.....	10, 000
Say one hundred thousand dollars.....	100, 000

"In addition to this sum a further appropriation for the United States Commissioners is necessary for the actual expenses incurred in preparing suitable reports of the results of the Exposition.

"The original minimum estimate of United States Commissioner General Beckwith, was \$300,000 for the necessary expenses of the Paris Exposition. The additional amount now asked for approximates that amount, and is really necessary, or so much of it as is called for by legitimate expenditures on account of the Exposition."

REPORT OF EXPENDITURES.

Mr. Beckwith to Mr. Seward.

"PARIS, April 30, 1868.

"The several resolutions of Congress appropriating money for the Universal Exposition at Paris, 1867, require statements to be transmitted to that body, through the Department of State, of the manner in which the money has been expended.

"In conformity therewith I have transmitted to the Department quarterly statements of receipts and expenditures, with vouchers in detail for each disbursement.

"I have now the honor to inclose an account current which is the index and complement of the quarterly statements, and presents in a condensed form the receipts and expenditures under each of the twenty-one heads of account, for each quarter, commencing in 1866 and extending to the 30th April, 1868; on referring to the entries in this abstract, to the label, letter, and date corresponding to the entry, all the details and vouchers for that item will be found together.

	Francs.
The gross sum which I have received from the Department,	
being the proceeds of credits on London for £18,000,	
amounts to.....	452, 095. 00
From other sources, (enumerated in detail).....	4, 935. 05
Total.....	457, 030. 05
And the gross expenditures reach the sum of.....	453, 630. 68
Leaving a balance in my hands of.....	3, 399. 37

To be returned to the department minus some small items which remain to be settled.

The total receipts in round numbers, stated in dollars, at	
five francs, amount to.....	\$91, 406
Expenditures.....	90, 726
Balance.....	680

"With regard to fixtures, furniture, materials, &c., for the Exposition, there were two methods of obtaining them: First. Upon plans furnished

by commissioners to contractors, who undertook at prices agreed upon, in consideration of which the furniture became the property of the commissioners. Second. Upon plans furnished by commissioners to contractors who engaged at prices agreed upon, in consideration of which the furniture reverted at the close to the contractor.

"By the first method the risk and chances of resale were assumed by the commission, and in the second method by the contractor.

"Previous to the date when it became practicable to close our contracts, nearly all those of other nations had been closed and the works well advanced. Most of them being on the basis of the first method, made it for the interest of contractors, who would be buyers more than sellers, to combine at the close to put down instead of supporting prices. A knowledge of these circumstances, and an examination of the various bids of contractors to supply the work, with details of prices presenting the option, left no room for doubt that the second method of contract would be best, and it was adopted.

"There remained, consequently, at the close but a small quantity of tools and materials for sale which are accounted for in detail, the proceeds amounting to 370 francs."

Mr. Beckwith to Mr. Seward.

"PARIS, June 19, 1868.

SIR: I have the honor to transmit herewith my final account of expenditures, (with vouchers,) commencing with the balance of 3,399.37 francs, remaining in my hands on the 1st of May, showing a disbursement since of 961.15 francs, and a balance of 2,438.22 francs, which, to close the account, I have transmitted to the credit of the Department with Messrs. Baring Brothers & Co., in the sum of £96 15s. 1d., all which I trust will be found correct and satisfactory.

The proceeds of my drafts on Messrs. Baring amounted, as

shown in my general account 1st May, with receipts from other sources therein enumerated, to francs.....	457, 030. 05
Disbursements to 1st May.....	453, 630. 68
Present account.....	961. 15
	<hr/> 454, 591. 83

Balance remitted to Messrs. B. B. & Co., francs.....	<hr/> 2, 438. 12
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"Showing a total disbursement in gold, at five francs to the dollar, of \$90,918 33."

EXPENSES OF THE NEW YORK AGENCY.

The following is a statement of expenditures by J. C. Derby, agent of the United States government at New York, for the Paris Universal Exposition of 1867, transmitted April 1, 1868, to the Secretary of State, as directed by joint resolutions of Congress, approved July 5, 1866, and

May 12, 1867, vouchers in detail for which were forwarded to the Department of State:¹

Salary of general agent, two years, at \$2,000..	\$4,000 00	
Services previous to passing of bill, say from		
October 1, 1865, to April 1, 1866.....	965 00	
Salaries of clerks, not exceeding four in number,		
in 1865, 1866, and 1867.....	7,514 17	
		\$12,479 17
Labor, storage, rent, cartage, fixtures, stationery, &c.....	15,267 00	
Advertising.....	3,290 12	
Safe.....	250 00	
Freight from New York to Havre.....	15,726 27	
Marine and fire insurance on works of art.....	7,460 77	
Total.....	54,473 33	

¹ This statement, together with the financial reports of Mr. Beckwith, were transmitted to Congress July 13, 1868, and are printed in Ex. Doc. No. 334, 40th Cong., 2d session.

IV.

PUBLICATION OF THE REPORTS.

STATEMENT OF THE AUTHORITY UNDER WHICH THE REPORTS HAVE BEEN PRINTED—
PUBLICATION IN A SEPARATE FORM, AND REASONS THEREFOR—GROUPING OF THE
REPORTS IN VOLUMES—LIST OF THE REPORTS BY TITLE, ARRANGED ACCORDING TO
SUBJECTS—ALPHABETICAL LIST OF THE AUTHORS OF REPORTS.

RESOLUTION AUTHORIZING THE PUBLICATION.

In the Senate of the United States, March 3, 1868, it was—

“Resolved, That the Secretary of State be, and he is hereby, authorized to have the reports of the Commissioners of the United States to the Paris Exposition printed at the Congressional Printing Office and laid before the Senate in a printed form; and that, in addition to the usual number, there shall be printed four thousand extra copies for the use of the Senate, and fifteen hundred copies for the use of the State Department, the reports to be bound separately or together as the Secretary of State may direct.”

On the 8th of April this resolution was suspended, and the Committee on Printing was directed to inquire into the amount of material to be printed under the foregoing resolution, the cost of the same, and also whether such publication would involve the preparation and the printing of any maps, plates, or illustrations.

The Department having been called upon for this information, it was furnished in detail to the committee with estimates of the cost of engraving the illustrations, and it was ordered by the Senate that the printing should proceed under the original resolution.

The printing of the report presenting a “Brief General Survey of the Exposition,” specially required by the instructions issued August 20, 1866, was commenced, and, inasmuch as at that time several of the most important of the reports were still in the hands of the authors undergoing revision, or not ready for publication, it was decided to print each report independently, and to issue a part of the whole number ordered in this separate form as soon as printed without waiting for the completion of the whole series, or of a sufficient number of reports to form a volume. Upon this plan each report has been printed with distinct paging and title, and one thousand copies of each in paper covers have been delivered to the Senate and five hundred copies of each, in the same form, to the Department of State. The remaining copies were reserved for the final grouping and binding in volumes. By this means the earliest possible publication was secured for each report, and their separate form permitted a wider and more economical distribution.

The following list gives the titles of the reports, alphabetically arranged according to the subjects. The reports all bear the imprint of the Government Printing Office and the year of publication. This imprint is omitted in the list, but the exact date of publication is supplied. The copies of reports not separately issued as above have been grouped together and bound in six volumes, under the general title of "Reports of the United States Commissioners to the Paris Universal Exposition of 1867; published under the direction of the Secretary of State, by authority of the Senate of the United States."

A list of the reports, in the order in which they are grouped in volumes, will be found at the end of Volume I and of Volume VI.

LIST OF THE REPORTS, BY THEIR TITLES, ARRANGED ALPHABETICALLY ACCORDING TO THE SUBJECTS.

- ARTS.—Machinery and processes of the industrial arts and apparatus of the exact sciences, by Frederick A. P. Barnard, LL. D., United States Commissioner.—pp. ix, 669. August 4, 1869. (In volume iii.)
- ASPHALT AND BITUMEN.—Report on asphalt and bitumen, as applied to the construction of streets and sidewalks in Paris; also to terraces, roofs, &c., and to various products in the Exposition of 1867; with observations upon macadamized streets and roads, by Arthur Beckwith, Civil Engineer.—pp. 31. January 15, 1869. (In volume iv.)
- BEET-SUGAR.—The manufacture of beet-sugar and alcohol and the cultivation of sugar-beet, by Henry F. Q. D'Aligny, United States Commissioner.—pp. 90. November 3, 1869. (In volume v.)
- BÉTON-COIGNET.—Report on Béton-Coignet, its fabrication and uses—construction of sewers, water-pipes, tanks, foundations, walls, arches, buildings, floors, terraces; marine experiments, &c., by Leonard F. Beckwith, Civil Engineer.—pp. 21. January 15, 1869. (In volume iv.)
- BIBLIOGRAPHY.—Bibliography of the Paris Universal Exposition of 1867, by William P. Blake, Commissioner of the State of California to the Paris Exposition of 1867. In press, April, 1870.
- BUILDINGS.—Report upon buildings, building materials, and methods of building, by James H. Bowen, United States Commissioner.—pp. 96. September 28, 1869. (In volume iv.)
- CEREALS.—Report on cereals: The quantities of cereals produced in different countries compared, by Samuel B. Ruggles, Vice-President of the United States Commission. The quality and characteristics of the cereals exhibited, by George S. Hazard, United States Commissioner.—pp. 26. September 28, 1869. (In volume v.)
- CHEMISTRY.—The progress and condition of several departments of industrial chemistry, by J. Lawrence Smith, United States Commissioner.—pp. ix, 146. September 7, 1869. (In volume ii.)
- CIVIL ENGINEERING.—Civil engineering and public works, by William P. Blake, Commissioner of the State of California.—pp. 49. March 5, 1870. (In volume iv.)

- CLOTHING.—Report on clothing and woven fabrics; being classes twenty-seven to thirty-nine of group four. By Paran Stevens United States Commissioner. In press, April, 1870. (In volume vi.)
- COAL.—Report on the manufacture of pressed or agglomerated coal, by Henry F. Q. D'Aligny, United States Commissioner.—pp. 19. October 8, 1869. (In volume v.)
- COTTON.—Report upon cotton, by E. R. Mudge, United States Commissioner, with a supplemental report by B. F. Nourse, Honorary Commissioner.—pp. ii, 115. June 28, 1869. (In volume vi.)
- EDUCATION.—Report on education, by J. W. Hoyt, United States Commissioner.—In press, April, 1870. (In volume vi.)
Report on school-houses and the means of promoting popular education, by J. R. Freese, United States Commissioner.—pp. 13. October 8, 1869. (In volume v.)
- ENGINEERING.—Report upon steam-engineering, as illustrated by the Paris Universal Exposition, 1867, by William S. Auchincloss, Honorary Commissioner.—pp. 72. August 2, 1869. (In volume iv.)
- FINE ARTS.—Report on the fine arts, by Frank Leslie, United States Commissioner.—pp. 43. February 6, 1869. (In volume i.)
The fine arts applied to the useful arts—report by the committee, Frank Leslie, S. F. B. Morse, Thomas W. Evans, United States Commissioners.—pp. 8, with 33 leaves of wood engravings. February 6, 1869. (In volume i.)
- FOOD.—Report on the preparation of food, by W. E. Johnston, M. D., Honorary Commissioner.—pp. 19. October 8, 1869. (In volume v.)
- GENERAL SURVEY.—General survey of the Exposition, with a report on the character and condition of the United States Section.—pp. 325. January 7, 1869. (In volume i.)
- GOLD AND SILVER.—(See *Precious metals*.)
- INTRODUCTION.—Introduction, with selections from the correspondence of United States Commissioner General Beckwith and others, showing the organization and administration of the United States Section. (In volume i.) .
- IRON AND STEEL.—The production of iron and steel, in its economic and social relations, by Abram S. Hewitt, United States Commissioner, 1868.—pp. 183. January 7, 1869. (In volume ii.)
- MINING.—Report on mining and the mechanical preparation of ores, by Henry F. Q. D'Aligny, United States Commissioner, and Alfred Huet, F. Geyler, and C. Lepainteur, Civil and Mining Engineers, Paris, France. February 19, 1869. (In volume iv.)
- MUNITIONS OF WAR.—Report on the munitions of war, by Charles B. Norton and W. J. Valentine, United States Commissioners.—pp. 213. January 7, 1869. (In volume v.)
- MUSICAL INSTRUMENTS.—Report upon musical instruments, by Paran Stevens, United States Commissioner.—pp. 18. June 21, 1869. (In volume v.)

ORES, MECHANICAL PREPARATION OF.—(See *Mining*.)

PHOTOGRAPHY.—Photographs and photographic apparatus, by Henry F. Q. D'Aligny, United States Commissioner.—pp. 19. October 8, 1869. (In volume v.)

PRECIOUS METALS.—Report upon the precious metals, being statistical notices of the principal gold and silver producing regions of the world represented at the Paris Universal Exposition, by William P. Blake, Commissioner of the State of California.—pp. viii, 369. March 11, 1869. (In volume ii.)

SCHOOL-HOUSES.—(See *Education*.)

SILK.—Report on silk and silk manufactures, by Elliot C. Cowdin, United States Commissioner.—pp. 51. January 7, 1869. (In volume vi.)

SURGERY.—Report on instruments and apparatus of medicine, surgery, and hygiene, surgical dentistry and the materials which it employs, anatomical preparations, ambulance tents and carriages, and military sanitary institutions in Europe, by Thomas W. Evans, M. D., United States Commissioner.—pp. 70. January 28, 1869. (In volume v.)

TELEGRAPHY.—Examination of the telegraphic apparatus and the processes in telegraphy, by Samuel F. B. Morse, LL. D., United States Commissioner.—pp. 166. November 20, 1869. (In volume iv.)

Outline of the history of the Atlantic cables, by H. F. Q. D'Aligny, United States Commissioner.—pp. 13. October 8, 1869. (In volume v.)

UNITED STATES SECTION, REPORT ON.—(See *General survey, &c.*)

VINE.—Report upon the culture and products of the vine, by Marshall P. Wilder, Alexander Thompson, William J. Flagg, Patrick Barry, committee.—pp. 28. October 8, 1869. (In volume v.)

WOOL.—Report upon wool and manufactures of wool, by E. R. Mudge, United States Commissioner, assisted by John L. Hayes, Secretary of the National Association of Wool Manufacturers.—pp. 143. January 7, 1869. (In volume vi.)

WEIGHTS, MEASURES, AND COINS.—Extracts from the report of the International Committee on Weights, Measures, and Coins, with a notice of the introduction of the metrical system in the United States and its relations to other systems of weights and measures. (In volume vi.)

NAMES OF THE AUTHORS OF REPORTS, ARRANGED ALPHABETICALLY.

AUCHINCLOSS, WILLIAM S., Honorary Commissioner, Civil Engineer.

BARNARD, FREDERICK A. PORTER, S. T. D., LL. D., President of Columbia College, New York, United States Commissioner, member of the International Jury.

BECKWITH, NELSON MARVIN, United States Commissioner General, President of the Commission.

BECKWITH, ARTHUR, Civil Engineer.

BECKWITH, LEONARD FORBES, Civil Engineer.

- BLAKE, WILLIAM PHIPPS, Commissioner of the State of California to the Paris Universal Exposition of 1867 and Delegate of the State Board of Agriculture.
- BOWEN, JAMES H., United States Commissioner.
- COWDIN, ELLIOT C., United States Commissioner.
- D'ALIGNY, HENRY FERDINAND QUARRÉ, United States Commissioner, member of the International Jury, Mining Engineer.
- EVANS, THOMAS W., M. D., United States Commissioner.
- FLAGG, W. J., United States Commissioner, (honorary,) member of Reporting Committee No. 9. (Report upon the vine, &c.)
- FREESE, JACOB R., United States Commissioner.
- GEYLER, F., Civil Engineer, Paris, France.
- HAYES, JOHN LORD, Secretary of the National Association of Wool Manufacturers. (The report on wool, etc.)
- HAZARD, GEORGE S., United States Commissioner, (honorary.)
- HEWITT, ABRAM S., United States Commissioner.
- HOYT, JOHN W., M. D., United States Commissioner, (honorary.)
- HUET, ALFRED, Civil Engineer, Paris, France.
- JOHNSTON, W. E., M. D., United States Commissioner, (honorary.)
- LEPAINTEUR, C., Engineer to the Syndicat of Class 47, Paris, France.
- LESLIE, FRANK, United States Commissioner.
- MORSE, SAMUEL F. BREESE, LL. D., United States Commissioner.
- MUDGE, ENOCH R., United States Commissioner.
- NORTON, CHARLES B., United States Commissioner.
- NOURSE, B. F., United States Commissioner, (honorary.)
- RUGGLES, SAMUEL B., Vice-President of the United States Commission.
- SEWARD, Hon. WILLIAM HENRY, Secretary of State. (Introduction.)
- SEYMOUR, CHARLES B., United States Commissioner.
- SLADE, FREDERICK J., scientific assistant to Committee No. 6. (Report upon Bessemer steel, in the report upon iron and steel.)
- SMITH, J. LAWRENCE, United States Commissioner, Vice-President of the International Jury upon Group V.
- STEVENS, PARAN, United States Commissioner.
- THOMPSON, ALEXANDER, M. D., United States Commissioner, (honorary,) member of Reporting Committee No. 9. (Report upon the vine, &c.)
- VALENTINE, W. J., United States Commissioner.
- WILDER, MARSHALL P., United States Commissioner.

V.

CLASSIFICATION OF THE OBJECTS EXHIBITED AND GENERAL INDEX.

THE CLASSIFICATION OF OBJECTS ADOPTED BY THE IMPERIAL COMMISSION—ITS COMPREHENSIVE AND EXACT CHARACTER—ITS VALUE AS AN INDEX TO THE EXPOSITION AND TO HUMAN INDUSTRY IN GENERAL—ENUMERATION OF OBJECTS IN EACH GROUP AND CLASS, AND REFERENCES TO THE REPORTS.

THE IMPORTANCE OF THE CLASSIFICATION.

The classification adopted by the Imperial Commission for the formation of the Exposition is the most comprehensive and exact ever made of the raw materials useful to man, and of the various products of industry and art. The Hon. N. P. Banks, in his speech delivered in the House of Representatives, March 14, 1868, says of this classification: "The plan of the Exposition of 1867 is the grandest classification of the products of human industry that the mind of man has ever conceived. There has never been presented, in the history of the world, such a comprehensive, systematic, and scientific grouping of the various branches of human industry as this plan unfolds. All the pursuits and products of its people are grouped in ten leading divisions, and are subdivided into ninety-five classes. * * * These ten groups embrace all the pursuits of man, all the products of industry; they represent the habits of life, and all the relations of men to each other, to society, and to progressive civilization."

This classification is now not merely an outline plan according to which the Exposition was formed, but, from the realization of that plan, it has become an index to the Exposition, and is not only valuable as such, but it has a permanent value as an index to the industrial arts, and may be used to facilitate reference to the reports on the Exposition and as a basis for future exhibitions. It has therefore been reproduced here, in connection with this introduction to the series of reports, and references to the reports have been added whenever the articles or subjects mentioned have been described or specially referred to in the series. It will thus, to a certain extent, serve as a general index to the reports. References are, in most cases, made to the volume in which the report will be found; and, as most of the principal reports are indexed, it will not be difficult to find the subject desired. As each report is separately paged, a general alphabetical index to the series could not be conveniently made.

CLASSIFICATION AND GENERAL INDEX.

FIRST GROUP.—WORKS OF ART.

- CLASS 1—*Paintings in oil*.—Paintings on canvas, on panels, on glazing, and other surfaces. [Report on the Fine Arts, in volume i; also in General Survey, p. 19.]
- CLASS 2—*Various paintings and designs*.—Miniatures, aquarelles, pastels, and designs of all kinds; paintings on enamel, on crockery, or porcelain; cartoons for frescoes and for glass windows. [Fine Art Report; also General Survey, p. 28.]
- CLASS 3—*Sculptures and engravings on medals*.—Spherical, embossing, sculptured bas-reliefs, sculptures repousées, pressed and chiseled medals, cameos, engraved stones, chemical engravings. [Fine Art Report; also General Survey, p. 32.]
- CLASS 4—*Designs and models of architecture*.—Studies and fragments, representations and projects of edifices, restorations from ruins and from documents. [Report on Buildings, &c., (iv); also General Survey, p. 34.]
- CLASS 5—*Engravings and lithographs*.—Engravings (black) on copper, wood, stone, &c.; engravings in several colors; lithographs, in black, in crayon, in pencil, and in colors. [General Survey, p. 34; also Fine Art Report and Report on the Industrial Arts.]

SECOND GROUP.—MATERIALS AND THEIR APPLICATIONS IN THE LIBERAL ARTS.

- CLASS 6—*Specimens of printing and publishing*.—Specimens of typography; proof-sheets of autography and lithography, in black and in colors; proof-sheets of engravings; new books and new editions of books already known; collections of works forming libraries on special subjects; periodical publications; designs; technical and school atlases and albums. [General Survey, pp. 35–39.]
- CLASS 7—*Specimens of stationery, of book-binding, and of materials used in painting and designing*.—Papers, cards, pasteboards, inks, chalks, pencils, pastels, furniture of writing-desks, inkstands, letter-balances, copy-presses, &c.; registers, copy-books, albums, note-books, instrument-cases, bands, elastic bands; various articles for water-colors, aquarelles, colors in cakes, in bladders, in tubes, and in shells; instruments used by painters, designers, gravers, and modelers; specimens of paper-work, lamp-shades, lanterns, flower-pots, &c. [General Survey, p. 39.]
- CLASS 8—*Specimens of design and plastic molding applied in the ordinary arts*.—Industrial designs; designs obtained, reproduced, or reduced by mechanical means; decorative paintings; industrial lithographs or engravings; models and rough sketches of figures, ornaments, &c.; sculptured work, cameos, lockets, and various objects ornamented by

engraving; industrial medals molded by machines; reductions and photographs; sculptures; various objects molded. [General Survey, p. 44.]

CLASS 9—*Proofs and apparatus of photography*.—Photography on paper, glass, wood, stuffs, enamel; heliographic engravings, lithographic proofs, photographic stereotypes, stereoscopes and stereoscopic proofs; specimens obtained by amplification; instruments, tools, and materials for photography; materials and apparatus for photographic workshops. [Report on Photography; also General Survey, pp. 47, 260; also Report on Industrial Arts, in volume iii.]

CLASS 10—*Instruments of music*.—Wind instruments, not metallic, with simple openings, with windpipes, with reeds, with or without reservoirs of air; metallic wind instruments, simple, with extensions, slides, pistons, keys, key-boards; wind instruments with key-boards, organs, accordions; instruments with cords for compression, or for the bow without key-boards; instruments with cords and key-boards, pianos, &c.; instruments for percussion or friction; automatic instruments, organs of Barbary, serinettes, &c.; detached pieces and apparatus for orchestras. [Report on Musical Instruments, in volume v; also General Survey, pp. 48, 261.]

CLASS 11—*Apparatus and instruments of the medical art*.—Materials and instruments for dressing wounds, sores, and for inferior surgery; instruments for medical explorations; materials and instruments for surgery; trusses and cases of instruments; cases of medicaments intended especially for army surgeons, navy surgeons, veterinary surgeons, dentists, oculists, &c.; apparatus for restoring sensation, general or local; apparatus (mechanical or plastic) of *prosthesis*, (the substitution of parts or members;) apparatus for deformities, ruptures, &c.; various apparatus for the sick, infirm, deranged; accessory objects used in the medical and surgical service, in pharmaceutics, and in hospitals and infirmaries. [Report on Instruments and Apparatus of Medicine, &c., in volume v; and General Survey, pp. 51, 262, 311.]

Materials for anatomical researches; apparatus for researches in medico-legal practice; special materials for veterinary medical fracture; apparatus for baths, medical baths, &c.; apparatus for the physical exercise of children, for healthful and for medical gymnastics, &c.; apparatus for aid to the wounded on the field of battle; ambulances, civil and military, for armies on land and at sea. [*Ibid.*]

Apparatus for aid to the drowning, suffocating, fainting, &c., and for electro-therapy. [Industrial Arts, in volume iii, p. 344.]

CLASS 12—*Instruments of precision, and apparatus for instruction in science*.—Instruments used in practical geometry, compasses, micrometers, levels, achromatic lenses, calculating machines, &c. [Industrial Arts, in volume iii, p. 613; General Survey, p. 53.]

Apparatus and instruments for surveying, for topography, for land

measuring, for astronomy, &c.; apparatus for various observations; apparatus and instruments of the arts of precision, [*See Industrial Arts*;] weights and measures of different countries, moneys, medals, &c., [*See Report on Weights, Measures, Coins, &c.*; also *Report on the Precious Metals*, chapter x, volume ii; also *Introduction*, &c., volume i;] balances; instruments for physical observations, meteorology, &c.; optical instruments; apparatus for instruction in physical science, in elementary geometry, descriptive geometry, solids, and mechanics. [*Industrial Arts*, in volume iii.]

Models and instruments for instruction in the industrial arts in general; collections for instruction in natural sciences; figures and models for instruction in medical science, flexible anatomical models, &c. [*Industrial Arts*, in volume iii.]

CLASS 13—*Geography, cosmography, apparatus, maps, charts, &c.*—Maps and atlases, topographical, geographical, geological, hydrological, astronomical, &c.; marine charts, physical charts of all sorts, flat and in relief; celestial and terrestrial globes and spheres; apparatus for the study of cosmography. [*General Survey*, p. 54; also in *Civil Engineering*.]

Statistical works, tables, and ephemerides for astronomers and mariners.

THIRD GROUP.—FURNITURE AND OTHER OBJECTS USED IN DWELLINGS.

CLASS 14—*Rich furnishings.*—Sideboards, bookcases, tables, toilettes, beds, sofas, seats, billiards, &c. [*Fine Arts Applied to Useful Arts*, &c., in volume i; *General Survey*, pp. 59, 265.]

CLASS 15—*Upholstery and decorative work.*—Bedding, covered seats, canopies, curtains, hangings in tapestry and in stuffs; furniture and decorative objects in rich stone and other valuable materials; decorations molded in paste, in plaster, in pasteboard; decorative painting, frames, furniture; decorative ornaments for religious service. [*General Survey*, Group III, p. 59; *Fine Arts*, &c.]

CLASS 16—*Crystals, rich glassware, and glazing.*—Goblets in crystal, cut-glass, double crystal, mounted crystal, &c.; glass for windows, furniture, and mirrors; glass figured, enameled, crackled, filigreed; optical crystals; ornamental glass-painted windows. [*General Survey*, pp. 61–65.]

CLASS 17—*Porcelain, faïence, and other potteries.*—Biscuit, hard, and tender porcelains; fine earthenware, glazed and colored; biscuit of faïence, terre cuite, enameled lavas. [*General Survey*, pp. 65–69; *Building Report*.]

CLASS 18—*Carpets, hangings, and other furniture tissues.*—Carpets, Wilton carpets, velvet tapestries; carpets of felt, of cloth, of clippings of wool, silk, or floss silk, of mat-weed, of India-rubber; furniture tissues

of cotton, wool, silk, hair, vegetable leather, moleskin, leather hangings and coverings, oil-cloths, &c. [General Survey, p. 69.]

CLASS 19—*Painted paper*.—Papers printed on blocks with rollers, with machines; papers velveteed, marbled, veined, &c.; pasteboards, book-covers, &c.; paper for artistic uses, spring blinds, &c., painted or printed. [General Survey, p. 72.]

CLASS 20—*Cutlery*.—Knives, penknives, razors, scissors, &c. [General Survey, p. 74.]

CLASS 21—*Goldwork*.—Goldwork for religious service, for table use and ornament, for toilettes, bureaux, &c. [General Survey, p. 76.]

CLASS 22—*Bronzes, various artistic [castings, and repoussé works in metals]*.—Statues and bass-reliefs in bronze, in cast-iron, in zinc; decorative and ornamental bronzes; imitations of bronze castings in zinc; castings coated with metallic coverings by the galvanic process; *repoussés* in lead, zinc, copper, &c. [General Survey, p. 79.]

CLASS 23—*Clocks and Clockwork*.—Separate pieces of clockwork; spring clocks, pendulum clocks, electrical clocks, watches, chronometers, regulators, second-counters, apparatus for measuring time, hour-glasses, sand-glasses, clepsydras, &c. [General Survey, p. 82; Industrial Arts.]

CLASS 24—*Apparatus and methods of warming and lighting*.—Fireplaces, chimneys, stoves, furnaces, accessory objects; apparatus for heating by gas, by hot water, by hot air; apparatus for ventilating and for drying; enameled lamps, blow-pipes, portable forges; lamps for oil—mineral, vegetable, or animal; other accessories of lighting; apparatus for lighting by gas; photo-electrical lamps; apparatus for lighting by magnetism. [General Survey, p. 86; also in Industrial Arts.]

CLASS 25—*Perfumery*.—Cosmetics and pomatums, perfumed oils, perfumed essences, liquid extracts, scents, aromatic vinegars, almond paste, powders, pastilles and perfumed sacks, combustible perfumes, toilet soaps. [General Survey, p. 87.]

CLASS 26—*Fancy articles, toys, basket-work*.—Small fancy articles of furniture, liquor-cases, glove-boxes, caskets, lacquer-work, dressing-cases, workboxes, screens, pocket-books, purses, portfolios, cigar-cases, memorandums; articles of checkwork; articles turned, sculptured, engraved, of wood, of ivory, in shell, snuff-boxes, pipes, combs, brushes, *corbeilles*, and fancy baskets; basket-work, grass-work. [General Survey, pp. 89–91.]

FOURTH GROUP.—GARMENTS, TISSUES FOR CLOTHING, AND OTHER ARTICLES OF WEARING APPAREL.

CLASS 27—*Yarn and tissues of cotton*.—Cotton, prepared and spun; tissues of cotton, plain and figured; tissues of cotton, mixed; cotton, velvets, tapes, &c. [Clothing Report, (vi); General Survey, p. 93, (i); Report on Cotton, (vi).]

CLASS 28—*Yarn, and tissues of linen, hemp, &c.*—Flax, hemp, and other

- vegetable fibers, spun; linen and ticking; Baptiste tissues of thread, mixed with cotton and silk; tissues of vegetable fibers, equivalent to linen and hemp. [Clothing Report, (vi;) General Survey, pp. 95-98.]
- CLASS 29—*Yarn and tissues of combed wool*.—Combed wools, tissues of combed wools, mousselines, merinoes, Scotch cashmeres, serges, &c.; galoons of wool, mixed with cotton, or thread, or silk, or floss; tissues of hair, plain and mixed. [Wool and Manufactures of Wool, (vi;) Clothing, (vi;) General Survey, pp. 98, 269.]
- CLASS 30—*Yarns and tissues of carded wool*.—Carded wool and yarn of carded wool; cloths and other tissues of wool, carded and fulled; blankets, felts of wool or of hair, for carpets; hats, socks, tissues of wool carded and not fulled or slightly fulled; flannels, tartans, &c. [*Ibid.*]
- CLASS 31—*Silk and tissues of silk*.—Silks raw or milled; silk or floss thread or yarn; tissues of silk, plain and figured; silk stuffs mixed with gold, silver, cotton, or wool; tissues of floss silk, pure or mixed; velvets, plushes, ribbons of silk, pure or mixed. [Silk and Silk Manufactures, (vi;) Clothing Report, (vi;) General Survey, p. 103.]
- CLASS 32—*Shawls*.—Shawls of wool, pure or mixed; shawls of silk and of cashmere. [General Survey, p. 106; also Clothing and Silk Reports.]
- CLASS 33—*Laces, embroideries, and trimmings for clothing, military clothing, furniture, carriages, harness, &c.*—Laces of thread or cotton, made with the lace spindle, needle, or machines; lace of silk, wool, or of goats' hair; gold or silver lace; tulle of silk or cotton, plain or figured; embroideries with the needle, the hook, &c.; embroideries in gold, in silver, in silk, in thread; tapestry embroideries and other hand-work; trimmings of silk, floss, wool, goats' hair, hair, thread, and cotton; laces, military trimmings, fine and coarse. [Clothing Report, (vi;) General Survey, p. 109.]
- CLASS 34—*Hosiery, linen, and other articles of clothing*.—Stockings of cotton, thread, wool, cashmere, silk, and floss, pure or mixed; garments of linen for men, women, children; baby-linen; garments of flannel and other tissues of wool; corsets; cravats; gloves; gaiters; fans; screens; umbrellas; parasols; canes, &c. [General Survey, p. 115; Clothing, (vi;)]
- CLASS 35—*Clothing for men, women, and children*.—Garments for men; garments for women; coiffures for men and women, wigs, and hair-work; boots and shoes; childrens' clothes; professional garments. [Report on clothing, (vi;) General Survey, Group III.]
- CLASS 36—*Jewelry and precious ornaments*.—Ornaments of gold, platinum, silver, and aluminum, chiselled in filagree, or set with fine stones, &c. Diamonds; precious stones; pearls and imitations. [General Survey, p. 133.]
- CLASS 37—*Portable armor*.—Defensive arms—bucklers, shields, cuirasses, casques; offensive arms—war clubs, maces, bludgeons, battle-

axes, &c.; foils, swords, sabers, bayonets, lances, hatchets, hunting-knives, bows, cross-bows, slings.

Fire-arms—muskets, carbines, pistols, revolvers; accessory articles—powder-flasks, bullet-molds; projectiles, oblong, spherical, hollow, explosive; percussion caps, primings, cartridges. [Munitions of War, (v;) General Survey, pp. 138 and 270-273.]

CLASS 38—*Articles for traveling and for encampment.*—Trunks, valises, sacks, bags, &c.; dressing-cases, trusses, &c.; various articles, coverings, cushions, coiffures, costumes, shoes, walking sticks, parasols, &c. General Survey, p. 143.]

Portable, for traveling and scientific expeditions: photographic apparatus, instruments for meteorological and astronomical observations; necessities for geologists, mineralogists, naturalists, settlers, and pioneers; tent and camp articles; military tent furniture—beds, hammocks, pliant seats, canteens, mills, ovens, &c. [Instruments and Apparatus of Medicine, &c., (v;) General Survey, pp. 143 and 273.]

CLASS 39—*Toys and gewgaws.*—Dolls and playthings; figures in wax; plays for children and for adults; instructive playthings. [General Survey, p. 145.]

FIFTH GROUP.—PRODUCTS, WROUGHT AND UNWROUGHT, OF EXTRACTIVE INDUSTRIES.

CLASS 40—*Products of mines and metallurgy.*—Collections and specimens of rocks, ores, and minerals; ornamental stones, marbles, serpentines, onyx, and other hard stones, [Building Report, &c., (iv;)] materials difficult of fusion; earths and clays; various mineral products, raw sulphur, [Industrial Chemistry, ii,] rock salt, salt from springs, bitumens, [Asphalt and Bitumen, iv,] and petroleums; samples of combustible, raw, and carbonized agglomerations of pit coal, [Pressed Coal, (v,)]—See also Class 47;] raw metals, pig iron, iron, steel, [Iron and Steel, (ii,)] copper, lead, silver, zinc, &c.; metallic alloys; products of puddlers, (and cinders,) of refiners of precious metals, of gold beaters, &c. [General Survey, pp. 147, 273; Precious Metals, (ii,)]

Products of electro-metallurgy, objects coated with gold, silver, copper, steel, &c., by the galvanoplastic method.

Products of the elaboration of raw metals, molded castings, bells, iron of commerce, iron for special uses, sheet iron, tin, extra plates for constructions and for plating ships; sheet copper, lead, and zinc, [Building Report, (iv;)] wrought metals, forge work, heavy work for gates, fences, &c.; wheels, bandages, tubes without solder, chains, &c. [General Survey, 150.]

Products of wire-mills, needles, pins, trellis-work, metallic tissues, perforated plates; hardware; edge-tools; ironmongery; copper, brass, plate, and tin wares; wrought metal of various kinds.

CLASS 41—*Products of the forest.*—Specimens of different species of wood; wood for cabinet work and for building; fire-wood; wood for

ship-work, for walking-sticks, for splintering; corks; textile barks; tanning, coloring, odoriferous, and resinous substances; products of forest industry; roasted and carbonized wood; crude potash; wood for cooperage, for basket-work, for sabots, for mat-work, &c. [General Survey, p. 151.]

CLASS 42—*Products of hunting and fisheries, and collections of natural growth.*—Collections and drawings of terrestrial and amphibious animals, of birds, of eggs, fish, cetacea, crustacea, mollusks. [General Survey, p. 157.]

Products of hunting—furs, peltries, hair, fine and coarse, feathers, down, horns, teeth, ivory, bones, shells, musk, castoreum, and similar products. [*Ibid.*]

Products of fisheries—whale oil, spermaceti, whalebone, ambergris, shells of mollusks, pearl, mother-of-pearl, corals, sponges, sepia, purple, &c. [*Ibid.*]

Collections from natural growth—champignons; truffles; wild fruits; lichens for dyeing, for food, and for fodder; fermented saps; Peruvian bark, useful barks, and filaments; wax; resinous gums; caoutchouc; gutta-percha, &c. [*Ibid.* Preparation of Food, in volume v.]

CLASS 43—*Agricultural products (not used for food) of easy preservation.*—

Textile materials—raw cotton; linen and hemp, dressed and not dressed; vegetable textile fibers of all sorts; wool in fleece; cocoons of silk-worm. [Reports on Cotton and on Silk, in volume vi, and in General Survey.]

Products of agriculture used in manufactures, pharmacy, and domestic economy—oleaginous plants, oils, wax, resins, tobacco, tinder, substances for tanning and for tinting; fodder and provender preserved. [General Survey, p. 160.]

CLASS 44—*Chemical and pharmaceutical products.*—Acids, alkalies, salts of all kinds, marine salt, spring salt. [Industrial Chemistry, (ii); General Survey, p. 164.]

Various chemical products—wax, soap, candles, matters for perfumery, resins, tar waters, essences, varnishes, coatings, waxings; manufactures of caoutchouc, of gutta-percha; substances for dyes and colors. [Industrial Chemistry, for candles, soap, and dyes.]

Natural and artificial mineral waters—gas waters, elementary pharmaceutical substances, simple and compound medicaments.

CLASS 45—*Specimens of the chemical methods of bleaching and dyeing, of stamping and preparations.*—Samples of yarn and tissues, dyed; samples of preparations for dyeing; linens, printed and dyed; tissues of printed cotton, pure and mixed; tissues of printed woollens, pure and mixed, combed or carded; tissues of printed silks, pure or mixed; printed carpets of felt or cloth; linens, painted or waxed. [Report on Wool and Manufactures of Wool, Clothing Report, General Survey, &c.]

CLASS 46—*Leather and skins*.—Elementary matters employed in the preparation of skins and leather; hides, green and salted; leather, tanned, curried, prepared, and dyed; varnished leather; morocco and sheep-skins; Hungary leather; chamois-skins, dressed with the hair or wool on; preparations and dyes; skins prepared for gloves; peltry and furs prepared and dyed; parchments. [General Survey, p. 165; Report on Clothing, (vi.)]

Articles of membrane work, cords for musical instruments, gold-beaters' skins, &c.

SIXTH GROUP.—INSTRUMENTS AND PROCESSES OF COMMON ARTS.

CLASS 47—*Apparatus and methods of mining and metallurgy*.—Apparatus for boring artesian wells and large wells; machines for drilling in mines, for digging coal, and for quarrying stone and breaking up rocks. [Mining Report, (iv); Civil Engineering, (iv.)]

Models, plans, and views of works and labor in mines and quarries; ladders for mines worked by machines; machinery for lifting from mines; machines for exhausting and pumping; apparatus for airing, ventilators, safety-lamps, &c.; photo-electric lamps; apparatus for safety, parachutes; signals. [Mining Report, (iv.)]

Apparatus for the mechanical preparation of minerals; apparatus for the agglomeration of combustibles. [Mining Report, (iv); Pressed Coal, &c., (v); General Survey, p. 171.]

Apparatus for carbonizing combustibles; furnaces and hearths for metals; apparatus for consuming smoke; machines for metallic works; special apparatus for forges and founderies; electro-metallurgic apparatus; apparatus for the working of metals in all forms. [Iron and Steel, (ii.)]

CLASS 48—*Implements and processes of rural and forest work*.—Plans of cultivation; divisions by nature of the soil; requisite manures and successions of crops adapted to each; materials and methods of agricultural engineering; surface draining; under-draining; irrigation. [General Survey, p. 174.]

Plans and models of rural buildings; tools, implements, machines, and apparatus for preparing the ground for sowing, planting, and harvesting; for preserving and preparing the products of agriculture; carts, wagons, and apparatus for agricultural and rural transportation; for training and managing horses, &c.

Fertilizing substances, organic or mineral. [General Survey, pp. 175, 282, 283, 284.]

Apparatus for the chemical and physical study of soils.

Plans for replanting, cultivating, and managing forests; implements of forest work.

CLASS 49—*Apparatus and instruments for hunting, fishing, and for collecting natural products*.—Arms, traps, snares, machines, and equipments for hunting; fish-lines, fish-hooks, harpoons, nets, apparatus and bait

for fishing; apparatus and instruments for gathering products obtained without cultivation. [General Survey, p. 176.]

CLASS 50—*Materials and methods of agricultural works and of alimentary industry.*—Apparatus for agricultural work, making manures, making pipes for drainage, dairies, corn and flour trade, disposal of fecula, making starch, oil, brewing, distilling, making sugar, refining sugar; works for preparing textile fibers, silk-worm nurseries, &c. [General Survey, p. 177; Beet-root Sugar.]

Apparatus for the preparation of food, bread-kneaders, and mechanical ovens for bakers; utensils for pastry and confectionery. [Preparation of Food, (v.)]

Apparatus for making dough, for sea-biscuit, for chocolate, for roasting coffee, for ices and sherbets, and for making ice. [Preparation of Food, (v); Industrial Arts, p. 366, for ice manufacture.]

CLASS 51—*Chemical, pharmaceutical, and tanning apparatus.*—Apparatus and instruments for laboratories; apparatus and instruments for testing and experiments in industry and commerce.

Machines and utensils used in the manufacture of chemical products, soaps, candles, &c.; apparatus and processes for making essences, varnish, and objects of caoutchouc and gutta-percha. [Industrial Chemistry, (ii.)]

Machines and apparatus for gas-works; machines and methods for bleaching; machines and preparations of pharmaceutic products; machines and tools for workshops, for tanning and dressing leather. [Industrial Chemistry.]

Machines and apparatus for glass-works and potteries.

CLASS 52—*Motors, generators, and mechanical apparatus especially adapted to the uses of the Exposition.*—Boilers and steam generators, with safety apparatus; steam-pipes and accessory objects; shafts, fixed and movable; pulleys and belts; means of starting and stopping, shifting and regulating the movements of machinery; motors for furnishing water and the necessary motive power in the different parts of the Palace and Park. [Steam Engineering, &c., (iv); Industrial Arts, (iii.)]

Cranes and all sorts of apparatus proposed for the handling of packages and objects in the Palace and grounds; rails and turn-tables proposed for use in the Palace and Park. [Steam Engineering.]

CLASS 53—*Machines and mechanical apparatus in general.*—Detached pieces of machinery, supports, rollers, slides, eccentrics, cog-wheels, connecting-rods, parallelograms, joints, belts, systems of ropes, &c.; mechanism for changing the gear of machinery, clicks, &c.; movement regulators and moderators; greasing apparatus. [Steam Engineering, (iv); Industrial Arts, (iii); Mining, (iv); General Survey, pp. 286-290.]

Indicators and registers, dynamometers, manometers, weighing apparatus, gauges, and apparatus for gauging liquids and gases; machines for handling heavy objects; hydraulic elevators, pumps, water-

wheels, rams, &c.; wheel and chain buckets for irrigation, reservoirs, wheels, wheels with vertical shaft, machines *à colonne d'eau*; steam machinery, boilers, generators, and accessory apparatus; condensers; machines moved by the vapor of ether, chloroform, ammonia, or by combined vapors. [Industrial Arts; Steam Engineering.]

Gas-engines, air-engines, compressed air-engines; electro-magnetic motors, wind-mills, &c.; ærostats. [Industrial Arts; Mining Report; General Survey, p. 286.]

CLASS 54—*Machine tools*.—Machine tools for preparatory wood-work; turning-lathes; planing and boring machines; mortising, piercing, and cutting machines; screw-cutting, nut-cutting, and riveting machines; various tools belonging to the yards of mechanical constructors. [General Survey, pp. 177 and 290.]

Tools, machines, and apparatus used in pressing, crushing, mixing, sawing, polishing, &c.; special machine tools for various uses. [General Survey, pp. 17-184.]

CLASS 55—*Apparatus and methods of spinning and rope-making*.—Apparatus for hand-spinning; detached parts of spinning machines; machines and apparatus for preparing and spinning textile matters. [General Survey, pp. 181 and 293.]

Apparatus and methods adapted to the complementary operations, such as drawing out, winding off, twisting, milling, &c.

Apparatus for classifying and determining the condition of the threads.

Apparatus of rope-yards, round, flat, and diminishing cables, rope and twine, wire cables, cables with metallic center, fuzes, quick-matches, &c.

CLASS 56—*Apparatus and methods of weaving*.—Preparatory apparatus for weaving; machinery for warping and for bobbins; glazing and smoothing; ordinary and power looms for plain tissues and for figured tissues; loom reeds; electrical looms; carpet and tapestry looms; mesh looms for hosiery and tulle; apparatus for making lace, for fringes, and for trimmings; looms for high warping and methods of shuttling; accessory apparatus, calenders, crimping, weaving, measuring, and folding machines, &c.

CLASS 57—*Apparatus and process of sewing and making clothes*.—Ordinary instruments for cutting and sewing and making; machines for sewing, quilting, and embroidering; tools for cutting up stuffs and leather for clothes, shoes, &c.; machines for screwing, nailing, and making shoes and boots. [General Survey, pp. 185 and 294.]

CLASS 58—*Apparatus and methods of making furniture and household objects*.—Machines for veneering; saws for cutting in profile, &c.; machines for moldings and frames, for ornamental floor-work and furniture-work, &c.; turning-lathes, and various apparatus for joiners' and cabinet-makers' shops; machines for pressing and stamping; machines and apparatus for working in stucco, in pasteboard, in ivory, in bone,

in horn; machines for pointing, sculpturing, and reducing statues, and for engraving and chasing; machines for sawing and polishing hard stones, marble, &c. [General Survey, pp. 185 and 297.]

CLASS 59—*Apparatus and methods of paper-making, coloring, and stamping.*—Apparatus for stamping paper, colors, and tissues; machines for engraving cylinders; apparatus for bleaching, coloring, preparing paper and tissues; apparatus for making paper in vats and by machines; apparatus for crimping, ruling, glazing, and pressing paper; machines for cutting, paring, and stamping paper, &c.; apparatus and materials for letter-casting, stereotyping, &c. [General Survey, p. 187.]

Machines and apparatus employed in stereotyping, mezzotinting, autography, lithography, chalcography, paniconography, chromo-lithography, &c.; printing of postage-stamps; machines for composing and for classifying letters. [Industrial Arts.]

CLASS 60—*Machinery, instruments, and methods used in various works.*—Machinery for stamping money, for making buttons, pens, pins, envelopes, brushes, cards, capsules, for loading merchandise, and for corking and capping bottles.

Tools and methods of making lock-works, toys, ornamental boxes, baskets, &c.

CLASS 61—*Carriage and cart work.*—Separate pieces of carriage and cart work, wheels, bands, axles, wheel-boxes, tires, &c.; springs and various methods of suspension; systems of tackling and brakes; specimens of carts and vehicles for special uses, public carriages, private carriages, state carriages, hand carriages, litters, sleighs, and velocipedes. [General Survey, pp. 188 and 299.]

CLASS 62—*Harness-work and saddlery.*—Articles of harness-work, buckles, ornaments, &c.; saddles, donkey saddles, cacolet; harness and bridles for riding; harness for draught, stirrups, spurs, whips, &c. [General Survey, p. 190.]

CLASS 63—*Materials for railroads and cars.*—Separate pieces, springs, buffers, brakes, &c. [Steam Engineering, &c., in volume iv; also in General Survey, pp. 191–202 and 300.]

Fixed materials, rails, chairs, splices, switches, turn-tables, fenders, watering cranes, reservoirs, signals for sight and sound; rolling materials, wagons for earthwork, for merchandise, for cattle, for travelers. [*Ibid.*]

Locomotives, fenders, &c.; machinery and tools of workshops, for repairs and reconstructions. [*Ibid.*]

Material and machines for inclined planes and self-working inclines. [*Ibid.* Industrial Arts for “Mahovos.”]

Material and machines for atmospheric railways; models of machinery; systems of traction, apparatus applicable to iron roads; models, plans, and drawings of termini, stations, sheds, and out-houses, necessary to railways. [Steam Engineering, iv.]

CLASS 64—*Apparatus and methods of telegraphing*.—Telegraphic apparatus, based on the transmission of light, sound, &c. [Report on the Telegraphic Apparatus, &c., in volume iv.]

Apparatus of the electrical telegraph, supports, conductors, tighteners, electrical batteries; apparatus for sending and receiving dispatches, bells, and electrical signals, accessory objects for the service; lightning-rods, commutators, prepared papers for printing, and autographic transmissions; special apparatus for submarine telegraphs. [*Ibid.* Industrial Arts, (iii); General Survey, p. 301.]

CLASS 65—*Materials and methods adapted to civil engineering, public works, and architecture*.—Materials for building, wood, metals, ornamental stones, lime, mortar, cements, artificial stone, beton, tiles, brick, slate, pasteboard, and felt, for roofing. [Civil Engineering, &c., (iv); Industrial Arts, (iii); Buildings, (iv); Beton, &c., and Asphalt and Bitumen, in volume iv; General Survey, p. 200.]

Materials and specimens of preserved wood; apparatus and methods of testing materials; materials of works for embankments, excavating machines; apparatus for stone-cutters' yards; tools and methods for draughtsmen, stone-cutters, masons, carpenters, roofers, tilers, slaters, locksmiths, joiners, glaziers, plumbers, house-painters, &c.

Ornamental iron-work, locks, padlocks, railings, balconies, balusters, &c.

Materials and machines for foundation work, pile-drivers, piles, screw-posts, pumps, pneumatic apparatus, dredging machines, &c.; machines for hydraulic work, seaports, canals, rivers, &c.; materials and apparatus used in water-works and gas-works; materials for repairing roads, plantations, and public works. [Civil Engineering, in volume iv.]

Models, plans, and drawings of public works, bridges, viaducts, aqueducts, sewers, canal-bridges, &c. [*Ibid.*]

Light-houses, public monuments for special purposes, private buildings, hotels, and houses to let, workmen's residences, &c. [Industrial Arts.]

CLASS 66—*Navigation and salvage*.—Drawings and models of ships, docks, floating docks, &c.

Drawings and models of all kinds of vessels for river and maritime navigation; types and models adopted by the navy; apparatus employed in navigation; boats and various craft; ship-chandlery; flags, signals, buoys, beacons, &c.; materials and apparatus for swimming exercises, for diving, and for salvage; floats, diving-bells, nautical impermeable clothing, submarine boats, apparatus for marine salvage, carrying hawsers, life-boats, &c. [General Survey, and the Report on the Industrial Arts.]

SEVENTH GROUP.—FOOD, FRESH OR PRESERVED, IN VARIOUS STAGES OF PREPARATION.

CLASS 67—*Cereals and other farinaceous edibles, with their derivatives.*—Wheat, rye, barley, maize, rice, millet, and other cereals in grain or flour; hulled grain; meal.

Farina of potatoes, rice, lentils, &c.; glutens—tapioca, sago, arrow-root, cassava, and other fecula; specimens of mixed meals, &c.

Italian pastes, semouille, vermicelli, macaroni; alimentary compositions as substitutes for bread, ribbon, vermicelli, pulp, domestic pastes, &c. [See, for this class, the Report on Cereals, the Report on Preparation of Food, and the General Survey, pp. 207 and 304.]

CLASS 68—*Baking and pastry cooking.*—Various kinds of bread, with or without yeast; fancy and figured bread; compressed bread, for traveling, campaigning, &c.; tea biscuits; specimens of pastry peculiar to every nation; gingerbread and dry cakes susceptible of preservation. [Preparation of Food, &c., in volume v.]

CLASS 69—*Fat alimentary substances, milk, eggs.*—Fats and edible oils, fresh and preserved milk, fresh and salt butter, cheese, various kinds of eggs. [*Ibid.*]

CLASS 70—*Meat and fish.*—Fresh and salt meat of various kinds; meat preserved by different methods; cakes of meat and portable soup; hams and preparations of meat; fowl and game; fresh and salt fish; barreled fish; cod-fish, herrings, &c. [General Survey.]

Fish preserved in oil; sardines, pickled tunny, &c.; crustacea and shells; lobsters, prawns, oysters, preserved oysters, anchovies, &c. [General survey.]

CLASS 71—*Vegetables and fruit.*—Tubers, potatoes, &c.; dry farinaceous vegetables, beans, lentils, &c.; green vegetables for cooking, cabbages, &c.; vegetable roots, carrots, turnips, &c.; spicy vegetables, onions, garlic, &c.

Salad, cucurbita, pumpkins, melons; vegetables preserved in salt, vinegar, or by acetic fermentation, sauerkraut, &c.; vegetables preserved by various methods; fresh fruits, dry and prepared fruits, plums, figs, grapes, &c.; fruits preserved without the aid of sugar. [General Survey, p. 213.]

CLASS 72—*Condiments and stimulants, sugars and specimens of confectionery.*—Spices, pepper, cinnamon, pimento, &c.; table salt, vinegar, compound seasonings and stimulants, mustard, curry, English sauces, &c.; tea, coffee, and aromatic beverages; coffee of chicory and sweet acorns; chocolate; sugar for domestic use, sugar of grapes, milk, &c. [General Survey, p. 215; Preparation of Food, in volume v.]

Various specimens of confectionery, comfits, sugar-plums, melting plums, nougats, angelicas, anise-seeds, &c.; sweetmeats and jellies, preserved fruits, citrons, cedras, oranges, apples, pine-apples; brandy fruit, sirups, and sugary liquids. [General Survey, pp. 215–219.]

CLASS 73—*Fermented drinks.*—Ordinary red and white wines, sweet and

mulled wines, sparkling wines, cider, perry, and other drinks extracted from fruit. [General Survey, pp. 218-222; Report on the Culture and Products of the Vine, &c., (v.) Beet-root Sugar and Alcohol, in volume v.]

Beer and other drinks, drawn from cereals; fermented drinks, drawn from vegetable saps; milk and saccharine substances of all kinds; brandy and alcohol; spirituous drinks, gin, rum, tafia, kirschwasser, &c. [General Survey, p. 222.]

EIGHTH GROUP.—ANIMALS AND SPECIMENS OF AGRICULTURAL ESTABLISHMENTS.

CLASS 74—*Specimens of rural work and of agricultural establishments.*—

Types of rural buildings of various countries; materials of stables, cow-houses, ox-stalls, kennels, &c.; apparatus for preparing food for animals; agricultural machinery in movement; steam-plows, reapers, mowers, haymakers, threshing machines, &c.

Types of agricultural manufactures, distilleries, sugar-mills, [see Report on the Manufacture of Beet-sugar and Alcohol,] refineries, breweries, flour-mills, fecula and starch manufactures, silkworm nurseries, &c.

Presses for wine, cider, oil, &c.

CLASS 75—*Horses, donkeys, mules, &c.*—Animals presented as characteristic of the art of breeding in all countries; specimens of stables.

CLASS 76—*Oxen, buffaloes, &c.*—Animals presented as specimens of the art of breeding in each country; specimens of cow-houses and ox-stables.

CLASS 77—*Sheep, goats.*—Animals presented as examples of the art of breeding in each country; types of sheepfolds, pens, and similar establishments.

CLASS 78—*Swine, rabbits, &c.*—Animals presented, &c.; types of hog-pens, and structures for raising animals of this class.

CLASS 79—*Poultry.*—Animals presented, &c.; types of hen-roosts, dove-cotes, pheasantries, &c.; apparatus for artificial hatching.

CLASS 80—*Hunting and watch dogs.*—Shepherds' dogs, hunting dogs, watch dogs; types of kennels and apparatus for training.

CLASS 81—*Useful insects.*—Bees, silk-worms, and various bombyxes, cochineal, insects for producing lac, &c.; apparatus for breeding silk-worms, bees, &c.

CLASS 82—*Fish, crustacea, mollusca.*—Living aquatic useful animals; aquariums; apparatus used in breeding fish, mollusca, and leeches.

NINTH GROUP.—LIVE PRODUCTS AND SPECIMENS OF HORTICULTURAL ESTABLISHMENTS.

CLASS 83—*Hot-houses and horticultural materials.*—Tools for gardeners, nurserymen, and horticulturists; apparatus for watering and for dressing grass-plots, &c.

Large hot-houses and their accessories; small green-houses for apartments and for windows; aquariums for aquatic plants; water jets and other apparatus for ornamenting gardens.

CLASS 84—*Flowers and ornamental plants*.—Species of plants and specimens of cultivation representing the characteristic types of garden and house plants of every country.

CLASS 85—*Kitchen-garden plants*.—Species of plants and specimens of cultivation representing the characteristic types of kitchen-gardens in all countries.

CLASS 86—*Fruit trees*.—Species of plants and specimens characteristic of the orchards in all countries; slips of forest species.

CLASS 87—*Seeds and useful forest plants*.—Species of plants and specimens of culture indicating the methods of replanting forests in different countries.

CLASS 88—*Hot-house plants*.—Specimens of the culture of various countries, with a view to utility and ornament.

TENTH GROUP.—OBJECTS EXHIBITED WITH A SPECIAL VIEW TO THE AMELIORATION OF THE MORAL AND PHYSICAL CONDITION OF THE POPULATION.

CLASS 89.—*Materials and methods for teaching children*.—Plans and models of school-houses, of school furniture, apparatus, instruments, models, wall-maps, &c., designed for facilitating the teaching of children; elementary collections suitable for teaching ordinary science; models of designs, tables, and apparatus suitable for teaching singing and music.

Apparatus and tables for instructing the deaf and dumb and the blind; school-books, atlases, maps, pictures, periodical publications, and journals for education.

Works of scholars of both sexes. [General Survey, pp. 229 and 308; and Report on School-houses, &c., (v.) Education, in volume vi.]

CLASS 90—*Libraries and materials for instruction of adults in the family, the workshop, the commercial and corporation schools*.—Works proper for family libraries, for the masters in workshops, cultivators, commercial teachers, mariners, traveling naturalists, &c.

Almanacs, memorandum-books, and other publications suitable for traveling venders.

Materials for school libraries, commercial libraries, &c.

Materials for the technical teaching necessary in certain manual pursuits. [*Ibid.*]

CLASS 91—*Furniture, clothing, and food, of all origins, distinguished for useful qualities, united with cheapness*.—Methodical collection of objects enumerated in the third, fourth, and seventh groups, supplied to commerce by large factories or by master-workmen, and specially recommended by their adaptation to good domestic economy.

CLASS 92—*Specimens of popular costumes of different countries*.—Method-

ical collection of costumes of both sexes, for all ages, and for pursuits the most characteristic of each country. [Clothing Report, in volume vi.]

CLASS 93—*Specimens of habitations, characterized by cheapness, uniting sanitary conditions and comfort.*—Types of habitations for families, suitable for various classes of laborers in each country. [Building Report, (iv.) General Survey, p. 310.]

Types of habitations proposed for workmen belonging to manufactories in the suburbs or in the country. [*Ibid.*]

CLASS 94—*Products of all sorts, made by master-workmen.*—Methodical collection of products enumerated in preceding groups, made by workmen who work on their own account, either alone or with their families, or as apprentices, for sale or for domestic use.

NOTE.—Such products only were admitted into this class as were distinguished for their own qualities, novelty, perfection of the method of work, or by the useful influence of this kind of work on the moral and physical condition of the people.

CLASS 95—*Instruments and methods of work peculiar to master-workmen.*—Instruments and processes (enumerated in sixth group) employed habitually by workmen working on their own account, or specially adapted to work done in the family or in the family circle.

Manual works which display in a striking manner dexterity, intelligence, or taste of the workman.

Manual works which, from various causes, have most successfully resisted the competition of machines.

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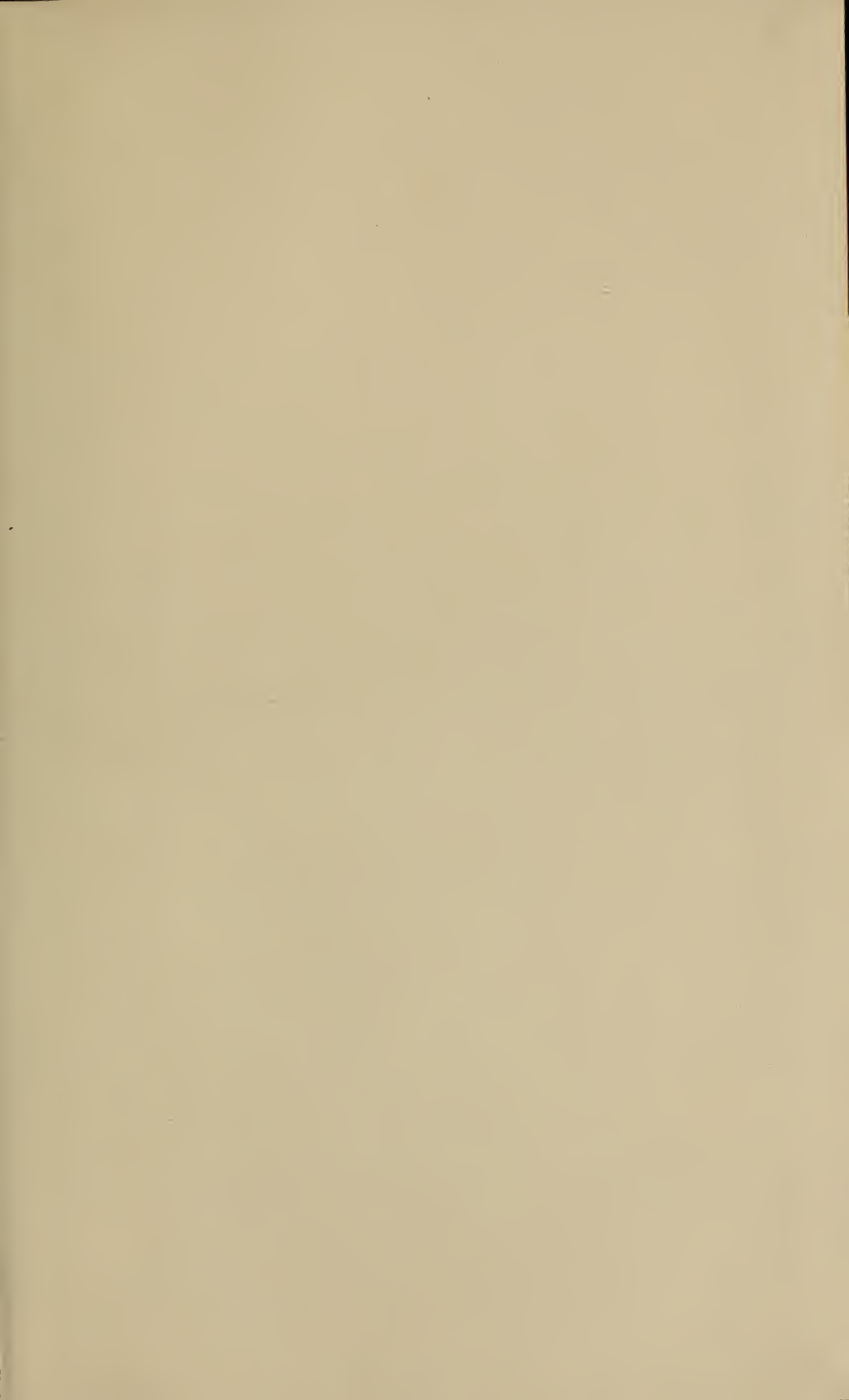
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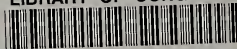
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